EFFECTIVENESS OF MINDFULNESS THERAPYON ON ANXIETY AMONG PRE OPERATIVE CLIENTS IN CARDIO THORACIC SURGERY WARD, AT GRH, MADURAI.

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Approved by Dissertation committee on

Nursing Research Guide _____

Prof. Mrs.S.POONGUZHALI, M.Sc (N), M.A ,M.B.A(HM)., Ph.D
Principal,
College of Nursing,
Madurai Medical College,
Madurai.

Clinical Speciality Guide_____

Dr.S.RAJAMANI, M.Sc (N), M.B.A(HM).,M.Sc (Psy), Ph.D
Reader in nursing
HOD Department of psychiatry (Mental Health) Nursing,
College of Nursing,
Madurai Medical College,
Madurai.

Medical Expert _____

Dr.T.KUMANAN, M.D., DPM.,
Professor and H.O.D,
Department of Psychiatry,
Madurai Medical College,
Madurai.

A dissertation submitted to

THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY,

CHENNAI- 600 032.

In partial fulfillment of the requirement for the degree of

MASTER OF SCIENCE IN NURSING

OCT 2017

CERTIFICATE

This is to certify that this dissertation titled**, "EFFECTIVENESS OF MINDFULNESS THERAPYON ANXIETY AMONG PRE OPERATIVE CLIENTS IN CARDIO THORACIC SURGERY WARD, GRH, MADURAI"** is a bonafide work done by **Mrs. M.Velayee,** M.Sc (N) Student, College of Nursing, Madurai Medical College, Madurai - 20, submitted to THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI in partial fulfillment of the university rules and regulations towards the award of the degree of **MASTER OF SCIENCE INNURSING, Branch V, Mental Health Nursing,** under our guidance and supervision during the academic period from 2015-2017.

Prof.Mrs.S.POONGUZHALI, M.Sc (N), M.A., M.B.A,(HM).,Ph.D .,
PRINCIPAL,
COLLEGE OF NURSING,
MADURAI MEDICAL COLLEGE,
MADURAI-20.

Dr. D.MARUTHU PANDIAN, M.S, FIIS., FAIS.,
DEAN
MADURAI MEDICAL COLLEGE,
MADURAI-20.

CERTIFICATE

This is to certify that the dissertation entitled **"EFFECTIVENESS OF MINDFULNESS THERAPY ON ANXIETY AMONG PRE OPERATIVE CLIENTS IN CARDIO THORACIC SURGERY WARD, AT GRH, MADURAI"** is a bonafide work done **Mrs.M.Velayee,** M.Sc (N) Student, College of Nursing, Madurai Medical College, Madurai- 20, in partial fulfillment of the University rules and regulations for award of the degree of **MASTER OF SCIENCE IN NURSING, Branch V, Mental Health Nursing**, under our guidance and supervision during the academic year 2015-2017.

Name & Signature of the clinical Speciality Guide_____

Dr.S.RAJAMANI, M.Sc (N), M.B.A(HM).,M.Sc (Psy), Ph.D.,
Reader and HOD,
Department of Psychiatry (Mental Health) Nursing,
College of Nursing,
Madurai Medical College,
Madurai.20.

Name & Signature of the Head of the Department _____

Prof.Mrs.S.POONGUZHALI, M.Sc (N), M.A, M.B.A(HM)., Ph.D.,
Principal,
College of Nursing,
Madurai Medical College,
Madurai.20

Name & Signature of the Dean _____

Dr. D.MARUTHU PANDIAN, M.S, FICS.,FAIS.,
Dean,
Madurai Medical College,
Madurai-20.

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"Knowledge is in the end based on acknowledgement"

Ludwig Wittgerstein

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ABSTRACT

Title: ‘**Effectiveness of mindfulness therapy on anxiety among pre operative cardio thoracic clients in cardio thoracic surgery ward at GRH, Madurai**. **Objectives:** To evaluate the effectiveness of Mindfulness therapy on anxiety among pre operative clients. To associate the level of anxiety among pre operative clients in cardio thoracic surgery ward at GRH Madurai and their selected socio demographic variables. **Hypotheses:** There is a significant difference between pretest and posttest level of anxiety among pre operative cardio thoracic clients. There is a significant association between the level of anxiety and their selected socio demographic variables. **Conceptual framework**: Modified Roy’s adaptation model was used for this study. **Methodology:** A true- experimental pretest post test control group design was used, 40 pre operative cardio thoracic clients were selected by simple random sampling method, pretest was conducted on both groups by using Hamilton anxiety rating scale on day1, mindfulness therapy was given for 30 minutes twice a day for 5 consecutive days for interventional group , Post test was conducted on day before surgery by using same scale for both groups. **Results**: In intervention group the level of anxiety in pretest, post test mean difference is 8.15‘ t ‘value 7.31 the difference is lager and it is statistically significant. **Conclusion:** Mindfulness therapy is cost effective, non- invasive, non–pharmacological complementary therapy to reduce anxiety among pre operative cardio thoracic clients.

Key words:, Mindfulness therapy , anxiety, pre operative cardio thoracic clients

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INTRODUCTION

CHAPTER I

INTRODUCTION

“In a disordered mind, as in a disordered body, soundness of health is impossible’’

- Cicero

The mind is set of cognitive functions including consciousness, perception, thinking, judgment, and memory.. It holds the power of imagination, recognition, and appreciation, and is responsible for processing feelings and emotions, resulting in attitudes and actions. Wellness of mind means adjustment with self and surrounding, Adjustment is a continuous process not a fixed it exists on a continuum. At one end is the well-adjusted person able to adopt as new needs arise. At the other end, is the poorly-adjusted person who may show the signs of anxiety, aggression or disorder thinking. So wellness of mind can maintain by adjustment and adaptation or coping with relaxed mind. .

The present modern society brings storm and stress to all human being s in every day of life. Often when people become ill, they feel anxious, afraid disempowered, and have depression and low self esteem.

The word anxiety comes from the Latin word “anxius and anger”. Anxius means a state of agitation and distress and the anger means to cause pain, to choke or strangle, which are common symptoms in the anxiety. Anxiety is described as an unpleasant state of uneasiness or tension, which may be associated with abnormal hemodynamic as a consequence of sympathetic, parasympathetic, and endocrine stimulations

Many patients experience anxiety before surgery as well as pain and sleeplessness. Surgical intervention is a distinctive event for each patient. Every patient not only has specific expectations of the surgical experience, but also has distinct hopes

for the outcome of the surgery. The nurse must take an active part in the entire pre-operative process in order to ensure quality and continuity of patient care.

Biologically, anxiety has a prime function in adapting to, or avoiding, threatening situations. Anxiety can be the result of stimuli which are naturally threatening or stimuli that are not in themselves threatening, but have become so because of a learned association between them and subsequent discomfort or threat .Anxiety is common throughout the life cycle. Most people would have experienced the emotion of anxiety at some time or other in particular situation. For those who are ill, feeling unwell and recovering from treatments, anxiety is most common. It is seen more commonly in females as compared to males. Roughly 323 million had an anxiety disorder as of 2017.

Heart surgery is usually performed to correct various heart problems such as tetra logy of fallot and congenital heart defects. The operation can also be performed to repair or replace heart valves, implant medical devices, repair abnormalities. Open-heart surgery is any type of surgery where the chest is cut open and surgery is performed on the muscles, valves, or arteries of the heart.

According to the National Heart, Lung, and Blood Institute (NHLBI), coronary artery bypass grafting (CABG) is the most common type of heart surgery done on adults. During this surgery, a healthy artery or vein is grafted (attached) to a blocked coronary artery. This allows the grafted artery to “bypass” the blocked artery and bring fresh blood to the heart. Open-heart surgery is sometimes called traditional heart surgery. Today, many new heart procedures can be performed with only small incisions, not wide openings.

An anxiety disorder may make the person feel anxious most of the time, without any apparent reason. In some cases, the anxious feelings may be so uncomfortable that

the person may stop routine activities. At times, the occasional bouts of anxiety may be so intense that they terrify and immobilize the person. Fear is another emotion with considerable similarity but with some important differences.

Fear is a response to an immediate danger in the present moment of time, while anxiety is associated with a threat that is anticipated in a future moment of time. Anxiety reflects the anticipation of fear and represents an adaptive attempt to prevent the fear-provoking circumstance from occurring. In an anxious state, people are readying themselves and preparing themselves to cope with a future problem or dilemma that they anticipate will cause some kind of harm,: It is totally normal to feel anxious before surgery. Even if an operations can restorer health or even save the life, most people feel uncomfortable about "going under the knife." It is important to make sure that fears and anxiety do not become too overwhelming.

A descriptive study conducted by William .F to determine the prevalence of anxiety in a group of patients undergoing elective surgery. The target population of the study comprised of 135 patients. Amsterdam Anxiety Preoperative and Information (AAPI) scale was used for the data collection .Data was collected 24 hours before the surgical procedure to evaluate the presence of anxiety. The results indicate that 76 percent ($p = 0.001$) of patient had preoperative anxiety and suggest the presence of preoperative anxiety in patients with elective surgery.

A cross sectional study conducted by shodhganga on the frequency of preoperative anxiety was conducted in 300 surgical patients. The tool used for data collection was Visual analogue scale (VAS) with State Trait Anxiety Inventory (STAI) questionnaire. STAI score of > 44 or VAS score of > 50 were considered as significant anxiety. Significant preoperative anxiety was seen in 62 percent patients. Frequency of anxiety decreased with advancing age but increased with higher educational status. 77

percent of patients had no previous exposure to surgery and 23 percent of patients had history previous surgery. This study indicates that even the educated persons have high level of pre operative anxiety.

Every individual feel anxious before having an operation, especially the day or two beforehand, which are often spent in the hospital preparing for the operation. Severe anxiety can cause unpleasant symptoms and stress. Typical symptoms include a pounding heart, a racing heart (fast pulse), irregular heartbeat, nausea, a nervous stomach, shortness of breath and/or sleep problems. These anxiety-related symptoms can be particularly worrying for people who have pain due to a cardiac condition.

Anxiety also becomes a problem if it makes it harder to understand and remember important things are told about the operation, such as advice about how to prepare for it or about recovering afterwards. The first thing to do about anxiety is learn to understand how it affects. Anxiety is a very strong feeling. One of the roles of anxiety is to protect us from situations that are too dangerous. At the same time, anxiety prepares the body quickly escape from the danger – a reaction also known as the "fight-or-flight response."

Most people learn how to manage their own anxiety and handle frightening situations over time. They develop suitable strategies to cope with what is causing the anxiety. But going into the hospital and having an operation is often a completely new situation. Here they often need psychological support from friends and family too.

People might cope with pre-surgery anxiety in different ways: Some try to prevent anxiety or stress by getting information early on and talking with other people about their concerns. Others distract themselves by reading, or use exercise or relaxation techniques like slow and deep breathing. Several studies have suggested that

listening to music before surgery can relieve anxiety. Music can help to relax and distract.

Personal coping strategies, the most suitable type of professional support will depend on what is causing the anxiety. For example, someone who is afraid of having an anesthetic will need a different type of support than someone who is mostly afraid of being away from their familiar surroundings. Other system of medicines can help patients to cope better with their anxieties, fears and phobias by giving various therapies for mind wellness. The reduction of pre-operative anxiety in surgical patients is important one.

A complimentary therapy is a intervention that is different from, but used in conjunction with, traditional or conventional medical treatment, In 1991, an office of alternative medicine was established by the national institutes of health to study nontraditional therapies and to evaluate their effectiveness and usefulness .Since that time, the name has been changed to the national center for complimentary medicine and alternative medicine.

Types of complimentary therapies-Herbal medicine,-(use of plants),Manual healing-(Acupressure, therapies, Chiropractic medicines), Massage therapies (Reflexology, Therapeutic touch), Mind /Body Control-Art therapy (Biofeed back, Counseling, Dance therapy, Guided imagery, Meditation, Mindfulness therapy, Music therapy, Yoga, Relaxation techniques) are used. Benefits of complimentary therapies are viewed as holistic health care, which deals not only with the physical perspective, but also the emotional and spiritual components of the individual and used for treatment of mild, moderate depression, Anxiety, nervousness and insomnia. Mindfulness therapy helps to stimulate neurotransmitter in the brain to increase the GABA and serotonin on reduction of anxiety

Relaxing the mind and body can help ease stress. It can also relieve anxiety, depression, and sleep problems. By using one or more of the following techniques to make relax and reduce anxiety.

Deep breathing is one of the best ways to lower stress and anxiety. When breathe deeply, it sends a message to the brain to calm down and relax. The brain then sends this message to the body. Mindfulness therapy is a technique in which self regulating that helps to feel calm and relaxed. It helps to change the neurotransmitters by increasing the GABA receptor and reducing the nor epinephrine which mediate arousal and anxiety reduction and feel calm.

Preoperative anxiety is a challenging concept in the preoperative care of patients. It begins as soon as the surgical procedure is planned. Preoperative anxiety is related to fear of the unknown, unfamiliar place, loss of control of situation, and fear of death. Patients may perceive the day of surgery as the biggest and the most threatening day in their lives.

Mindfulness therapy is a simple low cost therapeutic technique that can help counteract the fear and anxiety of pre operative surgical patients, Mindfulness has been described s a process in which thoughts feelings and sensations are acknowledged and accepted by means of present-centered awareness. Mindfulness encourages detached, non judging observation or witnessing of thoughts, perception, sensations and emotions, which provides a means of self- monitoring and regulate one's arousal with detached awareness.

Mindfulness therapy is a natural treatment for the anxiety, fear and insomnia that related to surgery. The benefits of mindfulness therapy include anxiety reduction, improved comfort during medical procedures, improvement in immune system, decreased recovery time following surgery, and reduction in sleeping problems

Role of the nurse in providing care to the pre operative patients includes not only physical and physiological factors but also psychological and emotional factors. Nurses can play vital role in reducing pre operative anxiety using any complementary therapies which helps the patient to cope with anxiety and alleviate anxiety. There is growing scientific evidence about complementary and alternative treatments, complementary therapy is used along with the conventional medicine.

1.1 Need for the study

"Imagination is more important than knowledge..."

-Albert Einstein

Anxiety is a common phenomenon among hospitalized patients and is an emotional state characterized by feelings of tension, nervousness, worry, apprehension and with heightened activity of the autonomic nervous system. Anxiety is more expected in preoperative patients due to fear of surgery and anesthesia.

The incidence of preoperative anxiety was reported in globally 1 in 13suffers from anxiety. Every year in the United States, more than 19 million people are suffering from an anxiety disorder. Of these, 6.3 million have a specific phobia such as fear of flying, 5.3 million are afflicted with social anxiety disorder (also known as social phobia Every year in the United States, more than 19 million people are suffering from an anxiety disorder, approximately 30 percent of adult population in north America have anxiety disorder.

In India, the incidences of preoperative anxiety have been reported up to 11 percent to 80 percent of adult patients. High preoperative anxiety levels can lead to increased postoperative analgesic requirement, prolonged hospital stay, significant contribution to adverse preoperative outcome and poor patient satisfaction. So most surgeons postpone operations in cases with high anxiety .Therefore; the importance of

anxiety in surgery patients shows the necessity of its prevention. In Tamil Nadu 18 present of the women were anxious associated with surgical procedure prevalent in the geriatric 43.2 %, non geriatric group 4.66%.

Medical standards have advanced very rapidly in India over the past 25 years, particularly in cardiology and cardiac surgery. The rising middle class, the solid economic growth (9% GDP/year), the nearly universal coverage provided through government insurance, growing access to private insurance and the presence in India of employees from US and other western companies, particularly in Chennai, have triggered an explosive demand of modern health care services and hospital beds. Currently, an estimated 6 million patients need cardiac surgery in India and the number of total cardiac operations has increased to 70-80 thousands per year

During the pre- operative phase, patients also may experience fear post operative pain, the loss of an organ or limb, anesthesia, threat of loss of job, financial insecurity loss of social and familial roles, disruption of life style , separation from significant others and even death. Identifying anxiety state and seeking remedy to reduce it, will help to increase the coping abilities of the individuals. In United States of America, it is estimated that 75 percent of patients seek care from their primary physician for stress and anxiety for which there are limited known causes or cures.

Anxiety levels are different in different people. An explorative study was conducted in 100 pre operative patients using Beck Anxiety Inventory scale. The results suggest that anxiety levels in males were 48 percent and 62 percent in females. Among these people 58 percent had varying grades of anxiety, 35 percent mild, 17 percent moderate and 6 percent with severe anxiety.

The level of anxiety of patient can be reduced by using various therapies like progressive muscle relaxation, mindfulness therapy, yoga, prayer, music therapy and

guided imagery. Effects of mindfulness on levels of anxiety were studied in 64 knee arthroplasty patients using State Anxiety Inventory Scale. The results of the study indicate that the experimental had significantly lower anxiety score, i.e. 40 percent less than the control group.

A non experimental study conducted by Jens-Holder A Krannich to asses on depression and anxiety in patients with coronary heart disease (CHD) German Department of Wurzburg University could find a significant correlation between age and the changes in anxiety. The former indicates that the younger the patient is the larger is the difference between pre- and post-surgical anxiety scores. Specifically, younger patients show a stronger decline in anxiety. These results were confirmed for the continuous HADS anxiety scores by ANOVA procedures. We could prove a significant interaction between the factors "age group" and "time" for anxiety ($F(3, 93) = 2.89$; $p = 0.03$), and a significant effect for the factor "time" ($F(1, 93) = 9.86$; $p = 0.002$). The anxiety scores are significantly lower ten days after CABG-surgery than two days before surgery.

A study conducted by Jain and Shapiro to show that mindfulness therapy may be specific in its ability to “reduce distractive and ruminative thoughts and behaviors”, which may provide a “unique mechanism by which mindfulness therapy reduces anxiety” Equipping individuals to deal with anxiety situations by accepting them and being aware of them, Mindfulness Therapy is an effective and miraculous technique of meditation against life’s problems and situations. Stress, anxiety, anger, frustrations, and other negative emotions adversely affect our minds and even bodies. Such negative emotions and actions should be dealt effectively and set-backs should be accepted without injuring our health

As there is unending misery due to pre-operative anxiety, the researcher felt the need for reducing anxiety levels in patients and as mindfulness therapy is economical, effective ,non invasive and non pharmacological, it is the method chosen to reduce pre operative anxiety

1.2 Statement of the problem

A study to evaluate the effectiveness of mindfulness therapy on anxiety among pre operative clients in cardio thoracic surgery ward, at GRH, Madurai.

1.3 Objectives

1. To assess the level of anxiety among pre operative clients in the interventional group and control group in cardio thoracic surgery ward, at GRH, Madurai.
2. To evaluate the effectiveness of Mindfulness therapy on level of anxiety among pre -operative clients in cardio thoracic surgery ward, at GRH, Madurai.
3. To associate the level of anxiety among pre operative clients in cardio thoracic surgery ward at GRH, Madurai with their selected socio demographic variables.

1.4 Hypotheses

H_1- There is a significant difference between level of anxiety among pre operative clients both in the interventional group and control group in cardio thoracic surgery ward at GRH Madurai.

H_2- There is a significant association between level of anxiety among pre operative clients in cardio thoracic surgery ward at GRH Madurai with their selected socio demographical variables.

1.5 Operational definitions

Effectiveness

In this study it refers to the intended outcome of mindfulness therapy on level of anxiety among preoperative cardiothoracic clients measured by Hamilton anxiety rating scale.

Mindfulness therapy

Mindfulness therapy refers to the ways of focusing on current moment especially concentrate on natural breathing silently for 5 minutes and calm down by relaxation for 5 minutes. Repeat the same attention back to the point of focus on breathing and relaxation for 2 times 30 minutes daily in the morning and evening for 5 consecutive days given through instructions and demonstrated by the researcher.

Anxiety

In this study it refers to level of intense apprehension, uncertainty, and fear resulting from the anticipation of cardiac surgery in which physical and psychological functioning disrupted and it is measured by Hamilton anxiety scale in pre-test on 5days before surgery and post –test on day before surgery.

Pre operative clients

In this study it refers to the clients who are admitted in cardio thoracic surgery unit I,II and waiting for surgery

Cardio thoracic surgery ward

In this study it refers to where the clients with cardio thoracic surgical problem are treated with cardio thoracic surgery It is one of the biggest cardio thoracic surgery

units(unit –I,II) are serving the people of south Tamil Nadu. Cardio thoracic ward is equipped with bed strength of 75 beds.

Assumption

Preoperative cardio thoracic clients may experience varying level of anxiety.

Delimitation

1. The data collection period is 4 to 6 weeks
2. This study is limited to cardio thoracic surgery ward at GRH, Madurai.

Projected out come

Mindfulness therapy to the preoperative cardio thoracic clients will helps to reduce the level of anxiety before going to cardio thoracic surgery.

CHAPTER - II

REVIEW OF LITERATURE

This chapter explains in detail about the review of literature and conceptual framework used for the study. A literature review is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources, and as such, do not report any new or original experimental work. Also, a literature review can be interpreted as a review of an abstract accomplishment.

Literature review serves a number of important functions in research process. It helps the researcher to generate ideas or to focus on a research approach, methodology, meaning of tools and even type of statistical analysis that might be productive in pursuing the research problem.

Review of literature in the study is organized under the following headings.

1. Literature related to preoperative patients and anxiety
2. Literature related to effectiveness of mindfulness therapy on anxiety.
3. Literature related to effectiveness of mindfulness therapy on pre operative anxiety in cardio thoracic surgery.

2.1 Literature related to preoperative clients and anxiety

Robert Rosenheck (2010) Conducted a cross sectional study on the frequency of preoperative anxiety in 300 surgical patients. The tool used for data collection was Visual analogue scale (VAS) with State Trait Anxiety Inventory (STAI) questionnaire. STAI score of > 44 or VAS score of > 50 were considered as significant anxiety. Significant preoperative anxiety was seen in 62 percent patients. Frequency of anxiety decreased with advancing age but increased with higher educational status. 77 percent

of patients had no previous exposure to surgery and 23 percent of patients had history previous surgery. This study indicates that even the educated persons have high level of pre operative anxiety.

Shodhganga. (2009) Conducted a descriptive study to determine the prevalence of anxiety in a group of patients undergoing elective surgery, the target population of the study comprised of 135 patients. Amsterdam Anxiety Preoperative and Information (AAPI) scale was used for the data collection .Data was collected 24 hours before the surgical procedure to evaluate the presence of anxiety. The results indicate that 76 percent ($p = 0.001$) of patient had preoperative anxiety and suggest the presence of preoperative anxiety in patients with elective surgery.

John L. Knight (2008) conducted a retrospective study examined the association between symptoms of depression, anxiety, and mortality risk following coronary artery bypass graft (CABG) surgery. Assessed 440 CABG surgery patients' scores on the Depression Anxiety and Stress Scale (DASS) and followed up mortality status for a median of 5 years, 10 months. There were 67 (15%) deaths overall during the follow-up period. Survival analysis with preoperative anxiety adjusted for covariates showed a significantly increased mortality risk [hazard ratio (HR)=1.88 (95% CI=1.12–3.17), P=.02].Preoperative anxiety symptoms were significantly associated with increased mortality risk factors.

Dehdari & associates (2008) Compared the S-Anxiety, self-efficacy and social support of CABG patients with that of Percutaneous Coronary Intervention (PCI).The Steinberger's STAI, General self-efficacy scale and perceived social support were used to collect data from the participants. The patients who had under gone PCI were more anxious than the CABG patients. self-efficacy and exercise they recruited a convenience sample of 51 men and women had undergone PTCA or CABG in the

previous 4 to 8 months.. Patients who had undergone CABG had greater adherence to recommended exercise regimen than patients who had PTCA.. Perceived barriers, benefits, severity, self-efficacy, and type of surgery explained 31 % of variance in exercise adherence.

Krannich, et al (2007) Conducted a descriptive study to assess the presence of anxiety and depression in patients before and after CABG and their association with age. Hundred and forty two consecutive patients who underwent CABG were recruited for the study. They completed the Hospital Anxiety Depression scale two days before and ten days after CABG. Results revealed that 34% were clinically anxious before CABG and 24.7% after CABG. Percentage of clinical depression was little less than the anxiety. 25.8% of the patients were clinically depressed before and17.5% after CABG. Younger patients were more anxious before CABG than older ones .

Tung, et al (2007) conducted a study examined the relationship between anxiety, coping and quality of life of patients who had undergone CABG. About 100 patients who had undergone CABG were recruited for the study. The mean post CABG duration was 27.1 month for male and 16.4 months for female. The mean Anxiety as measured using the Steinberger's STAI was 42.7 and 44.6 for men and women respectively. The mean Quality of life score measured using SF 36 scale was 45.3 for men and 41.8 for women. Anxiety was negatively correlated to physical dimension ($r = -.29$, $P < .01$) and mental dimension of Quality of life ($r = -.70$, $P < .01$). It can be noted there was a stronger association between the anxiety and mental dimension of quality of life. Multiple regression analysis revealed that 37% of variability in quality of life was accounted for by the anxiety ($P < .001$).

Pamela A. Geller (2007) Conducted a descriptive study to assess the level of anxiety One hundred heterogeneous outpatients reporting moderate to severe levels of

anxiety. Indicated the need for preoperative assessment of anxiety and initiation of appropriate intervention to reduce the anxiety. They assessed the level of anxiety and depression among, 53 patients. Coronary Angioplasty and CABG were significantly positively correlated Results showed that at 1 month and at 3 months after angioplasty patients were more uncertain than bypass. patients ($p < .05$), and that regardless of procedure, patients reported fewer symptoms of psychological stress at 3 months than at 1 month ($p < .01$).Patients with high social support had less uncertainty and psychological stress than patients with low social support ($p < .05$).

Montgomery & Benos, 2006 ; Conducted a prospective study done with 157 patients submitted for CABG ,the preoperative anxiety was the only predictor of quality of life at one month after CABG ($P < .01$) as well as one year after CABG ($P <.001$). . In their study 61 consecutive patients with the mean age of 66 years, were studied before and one year after surgery. Psychological, social, and surgical data were assessed.. At baseline the patients were divided into 3 groups according to their level of anxiety as assessed by Spielberger's S-Anxiety Inventory (STAI). The 3 groups did not differ in any of the basic parameters, except for their subjective experience of symptoms of dyspnoea ($p < .01$), and quality of life ($p < .0001$) for the whole patient group one year after surgery. However, patients belonging to the moderate-anxiety and high-anxiety groups remained more psychologically distressed ($p < .0001$) and perceived a higher degree of residual angina pectoris ($p < .0001$) than did patients who did not display anxiety preoperatively

Virginia Pignay-Demaria François Lespérance (2004) conducted a retrospective study examined association between symptoms of depression, anxiety, and mortality risk following coronary artery bypass in cardio thoracic ward Jaipur. Assessed 440 CABG graft (CABG) surgery. Surgery patients' scores on the Depression

Anxiety and Stress Scale (DASS) and followed up mortality status for a median of 5 years, 10 months. There were 67 (15%) deaths overall during the follow-up period.. Survival analysis with preoperative anxiety adjusted for covariates showed a significantly increased mortality risk [hazard ratio (HR)=1.88 (95% CI=1.12–3.17), P=.02].

Rymszewska and associates (2003) conducted a study for preoperative assessment of anxiety and initiation of appropriate intervention to reduce the anxiety. They assessed the level of anxiety and depression among, 53 patients who are not aware of the outcomes of their illness or therapy, they are eventually forced with lot of psychological stress. Evidence from a study showed that uncertainty and symptoms of anxiety and CABG were significantly positively correlated Results showed that at 1 month and at 3 months after angioplasty patients were more uncertain than bypass patients ($p < .05$), and that regardless of procedure, patients reported fewer symptoms of anxiety at 3 months than at 1 month ($p < .01$). Patients with high social support had less anxiety than patients with low social support ($p < .05$). CABG. The incidence of anxiety was as high as 55% in the preoperative period whereas in the post operative period the incidence was little low with 34%.

John H. Crystal.(2002) Conducted a descriptive study assess the preoperative anxiety and stress in surgical patients. A study was conducted to investigate preoperative levels of anxiety in day-care patients and in patients undergoing surgical interventions. Anxiety level was assessed in 135 patients by using questionnaire method and was found that significant preoperative anxiety was reported by 34 (45.3 percent) in patients and 23 (38.3 percent) day-care.

2.2 Literature related to effectiveness of mindfulness therapy on anxiety

Febu Elizabeth joy et al. (2014) conducted an exploratory study to identify the adolescents with social anxiety and teach the mindfulness therapy to those who would score high on social anxiety scale. The data were collected from 193 high school adolescents in various schools of Kenya. Anxiety Scale for Adolescent and Tool to Assess the Associated Factors of Social Anxiety. The mindfulness therapy was administered to the adolescents with moderate to severe social anxiety for one session for 45 minutes for 10 days Descriptive statistics was used , significance difference between the mean pre-test and mean post test scores. The findings stated that 104 (54%) experienced mild social anxiety, 52 (27%) was experienced moderate anxiety,5 (3%) experienced severe anxiety. There was a significant association between age and social anxiety.($\chi 2$= 15.297,df=3,p=0.001). The mean difference between mean pre-test and post test scores (14.45) was significant at o.o5 level (t=10.646 df 39 p=0.001) indicating mindfulness therapy was effective in reducing social anxiety.

Yunping Li et al.(2014) conducted a true experimental study to explore the effects mindfulness therapy of on anxiety, Chinese patients with heart disease undergoing cardiac catheterization were randomly assigned to a mindfulness therapy group and a control group.. The group received mindfulness therapy one session per day for 12 weeks of mindfulness therapy training. Anxiety level was measured using the state-trait anxiety inventory (STAI) instrument. The patients were evaluated with STAI and SF-36 before and after the mindfulness intervention.. After 12 weeks of intervention, showed significant improvement in overall (P<0.05). The intervention group, but not the control group, showed significant improvement in anxiety, after intervention (P<0.05). Moreover, , The findings of the study revealed that Mean pre-

test score was 52.4 and the mean post-test score was 38.14 at 0.05 level of significance hence statically the mindfulness therapy is effective for reducing anxiety.

Febu Elizabeth joy et al (2014) Conducted a prospective, randomized control trial study on patients undergoing their first elective colorectal surgeries. The target population of the study comprised of 50 patients and samples were selected through random sampling technique. They were assigned to experimental and control group. The tool used to rate pain and anxiety was Linear Analog Scale of 0 to 100. The control group received standard preoperative care, and experimental group practiced to a mindfulness therapy 5 days preoperatively and for the first 5days of postoperative period. Before surgery, anxiety increased in the control group but decreased in the experimental group (median change, 30; $P < 0.001$). Postoperatively, median increase in the worst pain was 72.5 for the control group and 42.5 for the experimental group.

Maryam zargardesh and Maryam Shirazi. (2013) Conducted a quasi-experimental study in three stages on 49 male and female nursing students of Isfahan University of Medical sciences divided into two groups (study and control). In the pre-test stage, demographic data and Sarason anxiety questionnaires were filled by 94 students (of terms 3 and 4). Then, in the intervention stage, the students having test anxiety were assigned to two groups (study and control), and the mindfulness therapy was performed in the experiment group in two session per day for 10 days. Independent's' test and chi square test showed no significant difference in demographic characteristics between study and control groups before intervention (P=0.76). The results of Mann Whitney test also showed no significant difference in anxiety scores before intervention (P=0.60), but this difference was significant after intervention (p=0.001)The mean level of anxiety during pretest was 89.82 and during post-test it

was reduced to 69.55.. The results showed that performing mindfulness therapy was effective in reducing anxiety among nursing students.

Hofmann, Stefan G.; Sawyer, Alice T.; Witt, Ashley A.; (2010) conducted a study to determine the effectiveness of mindfulness-based therapy for anxiety and mood symptoms in clinical samples. The meta-analysis was based on 39 studies totaling 1,140 participants receiving mindfulness-based therapy for including cancer, generalized anxiety disorder, Results: Effect size estimates suggest that mindfulness-based therapy was moderately effective for improving anxiety (Hedges's g = 0.63) and mood symptoms (Hedges's g = 0.59) from pre- to post treatment in the overall sample. In patients with anxiety and mood disorders, this intervention was associated with effect sizes (Hedges's g) of 0.97 and 0.95 for improving anxiety

Maryanna D. Klatt, PhD, Janet Buck worth, Ph.D, William B. Malarkey, MD (2008) conducted quasi experimental study using pre-test post-test control group design. Mindfulness meditation on anxiety reduction among working adults at General Clinical Research Centre at The Ohio State University. Total of 100 participants, 50 in each They measured the self reported questioner and mindfulness. Then participants are grouped into two, experimental and control group. Experimental group underwent to mindfulness was given 30 minutes for 10 days. The results were interpreted as follows, significant reductions in anxiety (p =.0025) and increases in mindfulness (p = .0149) were obtained for only (n = 22). Scores on the measure of experimental (p = .0018) as well as for the control group (p = .0072) n = 22Susan Evans, Stephen Fernando (2008), conducted a study to assess the effective of mindfulness therapy in the treatment of anxiety disorder. Mindfulness-based cognitive therapy (MBCT) is a group treatment derived from mindfulness-based stress reduction core of the program. Eligible subjects recruited to a major academic medical center participated in the group

MBCT course and completed measures of anxiety and mindful awareness end of treatment. Results Eleven subjects (six female and five male) with a mean age of 49 (range = 36–72) met criteria and completed the study.. In this study calculated F value is 2.964 is greater than tabled value 2.045 ($p<0.01$) the study revealed that state anxiety MBCT may be an acceptable and potentially effective treatment for reducing anxiety and mood.

Evan M. Forman James D. Herbert Ethan Moitra (2008) Conducted a study to determined the effectiveness of mindfulness therapy on reducing anxiety among preoperative patients. The researcher used the experimental method, and the study consisted of 46 samples aged 22-43 years in cardiac hospital Bangalore. Hamilton anxiety scale was used . Experimental group was given mindfulness for anxiety of treatment components, twice a day for 1 week each group. The general conclusion is that among experimental group paired 't' test were used($t=9.53$) with mean difference 1.42 as compared to control group ($t=1.45$) with mean difference of 0.30 .The results of the study are significant

Michiyo Ando, R.N., Ph.D. (2006) Conducted a study to assess the efficacy of mindfulness-based meditation therapy on anxiety, depression . The subjects were 28 patients who were receiving anticancer treatment.. Patients completed pre intervention and post intervention questionnaires on anxiety and depression (Hospital Anxiety and Depression Scale was used. HADS scores significantly decreased from 12 ± 5.3 to 8.6 ± 6.3 ($p = 0.004$) after the intervention, and FACIT-Sp increased from 32 ± 6.5 to 33 ± 6.9 ($p = 0.69$), but the change was not significant. There were significant associations between FACIT-Sp and HADS ($r = -0.78$, $p = 000$), FACIT-Sp and growth ($r = -0.35$, $p = 0.04$), FACIT-Sp and pain ($r = -0.41$, $p = 0.02$), and growth and

appreciation ($r = 0.45$, $p = 0.009$) Mindfulness-based meditation therapy was effective for anxiety and depression in Japanese cancer patients,

Brown (2003) Conducted a study to determine the Effect of Mindfulness-Based Therapy on Anxiety:. Conducted literature search studies totaling 140 participants receiving mindfulness-based therapy for a range of conditions, preoperative anxiety disorder, Effect size estimates suggest that mindfulness-based therapy was moderately effective for improving anxiety (Hedges's g ! 0.63) symptoms (Hedges's g ! 0.59) from pre- to Post treatment in the overall sample. In patients with anxiety disorders, this intervention was associated with effect sizes (Hedges's g) of 0.97 and 0.95 for improving anxiety and mood symptoms, respectively..

Robert J Kirkby (2003) An experimental study was conducted on 44 patients undergoing same-day surgical procedures. The samples were drawn by random sampling technique, were assigned to experimental and control group with a prospective pre-test post-test design. Anxiety and baseline pain levels were documented preoperatively by face to face interview method. The experimental group listened to a mindfulness therapy but control group had no intervention. Data were collected on pain at 1and 2 hour post -intervention intervals. The results of this study reveal that the anxiety level and pain, decreased in the experimental group (60 percent) than the control group decrease of 30% for the control group and experimental group mean difference 12.5.

2.3 Literature related to effectiveness of mindfulness therapy on preoperative anxiety in cardio thoracic surgery.

Masoud Fallahi Khoshknab, PhD, RN, Asghar Rokofian, MA Patricia Mary (2013) Conducted a A randomized controlled trial of a preoperative mindfulness training intervention Coronary artery bypass grafting (CABG) is associated with

anxiety... A randomized controlled trial of a preoperative mindfulness intervention was administered in five sessions of 45 minutes duration to test the impact intervention were assessed using the Hamilton Anxiety Scale. Results: Level of anxiety were comparable between the intervention and control groups. mean scores between intervention (19.48 ± 2.03) and control groups (43.27 ± 5.49), $p < .001$. Conclusions: This study demonstrates that preoperative mindfulness intervention, can reduce anxiety in patients undergoing CABG. −2.1 points, 95% CI −3.19 to −0.92; $P < 0.001$) compared with those who did not. The interference from (mean difference −0.9 points, 95% CI −1.63 to −0.16; $P = 0.02$). ($P = 0.05$) but no difference in length of postoperative hospital stay ($P = 0.17$).This form of preoperative intervention is effective in reducing anxiety among Chinese cardiac surgery patients.

VP SinghV. RaoPrem V. Sahoo RC (2012) conducted a randomized controlled study of pre-test post-test design, to evaluate the acute effects of mindfulness therapy in hospitalized CABG subjects after a recent episode of exacerbation. In this study 82 CABG subjects were recruited from KMC hospitals. After being screened 72 subjects were selected for the study. By using Hamilton anxiety rating scale. Results revealed that there was statistically significant in main effect across the sessions for state anxiety ($F = 6.024$, $p = 0.003$), trait anxiety ($F = 8.222$, $p = 0.000$), ($F= 12.078$, $p = 0.000$).

Ping Guo Linda East, Antony Arthur (2004), Conducted a Randomized controlled trial. However, level of anxiety, among patients undergoing cardiac surgery, especially Chinese cardiac patients.. Cardiac surgical wards of two public hospitals in Luoyang, China.153 adult patients undergoing cardiac surgery were randomized into the trial, 77 to a usual care control group and 76 to mindfulness group. Study was conducted following randomization and intervention given for seven days before

surgery. The primary outcome was change in anxiety measured by the Hospital Anxiety and Depression Scale (HADS). - participants randomized, 135 (88.2%) completed the trial. Participants who received mindfulness therapy. experienced a greater decrease in anxiety score (mean difference −3.6 points, 95% confidence interval −4.62 to −2.57; P < 0 short form stay and postoperative hospital stay. results of 153.001) (mean difference)

Garvin, et al (2003) examined the relationship of gender and preference for information and control of anxiety preoperative patients. The convenience sample of 410 was recruited from multicenter. 68% of the samples were male and predominantly white (87%). Anxiety was assessed using state-trait anxiety inventory. Study results indicated that women were more anxious than men (P<.05) but they were Effect of mindfulness therapy on the anxiety of 90 volunteer male and female subjects between the ages of 21 and 65, hospitalized in a cardiovascular unit of a large medical center in New York City, Subjects who received intervention by mindfulness therapy experienced a highly significant (p < .001) reduction in state anxiety, a significantly (p < .01) greater reduction in posttest anxiety.

Dominic Shung Kit Chan & Heung Wan Cheung (2003) conducted a randomized controlled study to assess the effects of mindfulness therapy on anxiety among Chinese patients with heart disease undergoing cardiac catheterization in Hong Kong. Randomized experimental design, data collected on three occasions from subjects. A regional major hospital in Hong Kong. 62 clients who met the inclusion criteria were randomly allocated into experimental and control groups with 31 subjects in each group. Intervention: Mindfulness therapy before cardiac catheterization. Main outcome measures: State Anxiety Inventory (STAI Form Y-1) about Cardiac Catheterization. State anxiety of all subjects reached the highest 60% at the time just

before cardiac catheterization and recorded the lowest 30%at the time following the procedure. A effective educational program for clients prior to cardiac surgery

Carlson LE, Speca M, Patel KD, Goodey E. (2002), conducted an experimental study on mindfulness meditation for Preoperative cardiac patients on anxiety symptoms, Fifty-nine patients enrolled in mindfulness meditation and daily practice for 30 minutes 7 consecutive days . Hamilton anxiety ratting scale were used to assess the anxiety symptoms before and after the mindfulness intervention.. Scores were calculated. Results of the study were anxiety change scores and practice was significant at the $p < .01$ level. Significant improvements were seen in symptoms of anxiety.

2.4 Conceptual framework

Denise F.Polit, and Cheryl models, like theories, provide context for nursing studies. Framework is conceptual underpinning of a study. In many studies, the framework is implicit, but ideally researches clarify the conceptual definitions of key concepts. Several conceptual models of nursing have been developed and have been used in nursing research. The concept central to models of nursing are person, environment, health, and nursing. Schematic models are representations of phenomena using symbols or diagrams. Statistical models use mathematic symbols to express quantitatively the nature and strength of relationships among variables.

In this study researcher utilized a framework based on the Modified Sister Callista Roy's Adaptation Model. As per the Roy's view, person is a bio psycho social being in constant interaction with the changing environment. Human beings are tried to sustain balance between the bio psycho social factors and the outside environment. The adaptation level is range of adoptability with in which the new environment.. Here the focal stimuli of the person are constant interaction with changing environment. The person cope with changing world, the individual used both innate and external stimuli

and thereby obtain coping mechanism from the environment. The researchers considers mindfulness therapy as a focal stimuli to the anxiety of preoperative cardio thoracic patients.

The human beings adaptive level such as that it comprised a zone indicating the range of stimulation that lead to a positive responses . The adoptive mode responses that the integrity of the self in return of goal of adaptation and survival of growth and mastery. It has four models namely physiological model, self concept mode, role function mode and interdependent mode.

Input

Through the process of selecting the model regulates the types and the amount of input received, some types of inputs are used immediately in their original state. Input refers to the actual planning of action to send the information to open system. Input refers target group with their characteristics level of competencies and interest. Socio demographic variables would have some influences on anxiety among preoperative cardio thoracic patients such as age, sex, religion, education, occupation, total income of the family, type of family, residential status, duration of illness,. Duration of treatment Pretest to assess their level anxiety and the intervention is mindfulness therapy which was given for 30 min twice a day for 5 consecutive days.

Process

Mode I Physiological mode- the basic action of this mode is enhance the physiological integrity and is composed of the needs associated with oxygenation, circulation, sleep, rest and protection. The complexes of this modes are associated with the senses, fluid and electrolytes, neurological functions and endocrine functions. Mindfulness therapy enhance blood flow to the affected vessels and stabilizing physiological functions, promote sleep and feel active.

Self - concept mode- This mode relates to the basic need for psychic integrity. It focuses are on the physiological and spiritual aspect of the person. The mindfulness

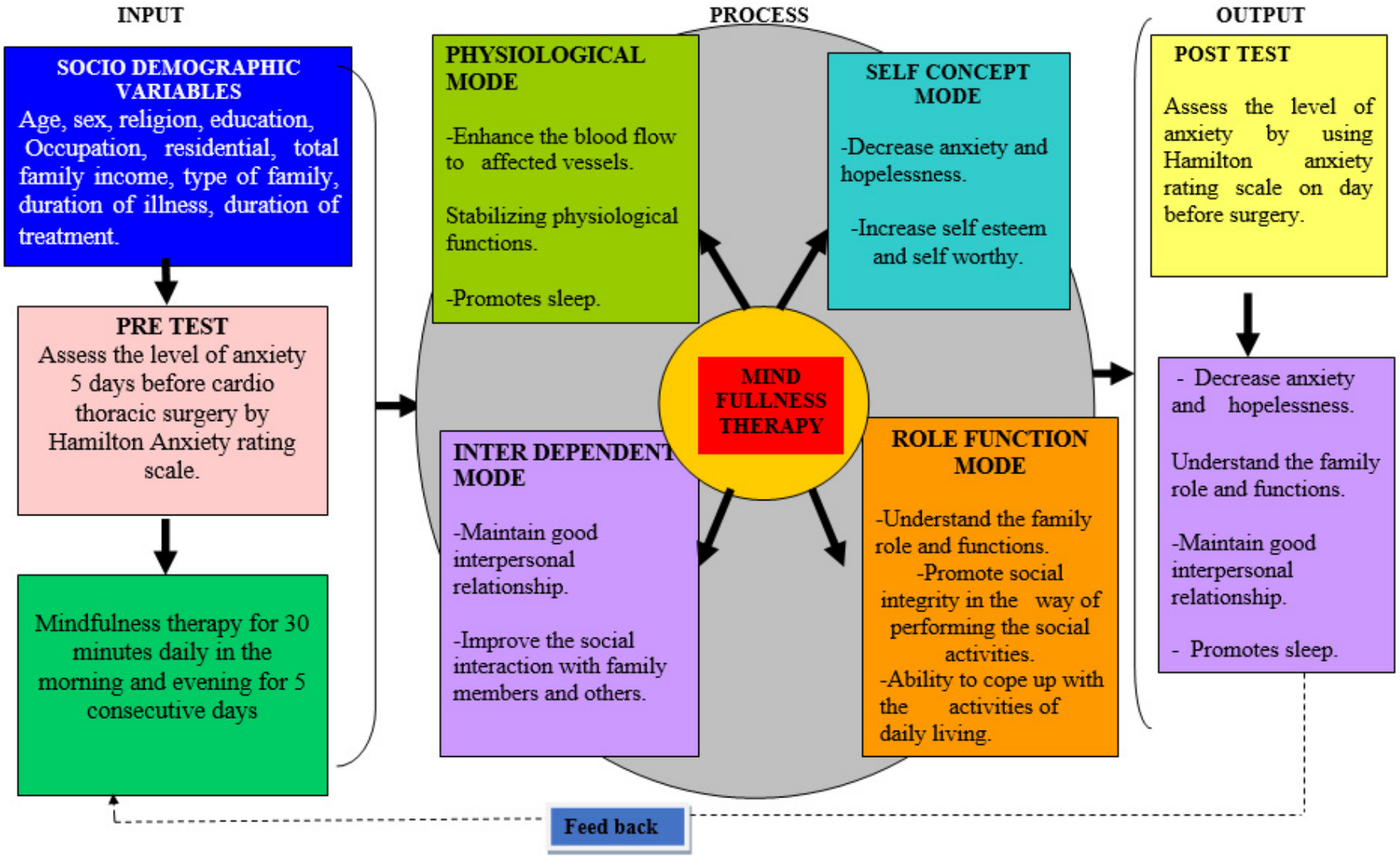
therapy stimulates the neurotransmitters and makes an individual to feel self consistency self- idea and ethical –moral- spiritual. Self consistency represents the person efforts self organization and to avoid disequilibrium. Self – ideal represent what the person expects to be and do, and moral- ethical - spiritual self represents the person's belief system and self evaluation which helps to decrease anxiety and hopelessness, increase self esteem and self worthy.

Role function mode- This mode identifies the patterns of social interaction of the person in relation to others by understanding the family role and promotes social integrity in the way of performing social activities, ability to cope up with activities of daily living.

Inter dependent mode –In this Inter dependent mode, the affection needs are met. Mindfulness therapy helps to maintain good interpersonal relationship and improve the social interaction with family members and others.

Output

Output is the end result of nursing interventions. Output can be adaptation to the stimuli or mal adaptation to the stimuli. The researches believes that the overall action of these four modes, said to be the output of the study, enhancing the blood flow to the affected vessels, stabilizing physiological functions, promote sleep, decrease anxiety and hopelessness, increase self- esteem and self worthy, understand the family role and promote social integrity in the way of performing the social activities and ability to cope up with activities of daily living among the pre operative cardio thoracic clients. In this study, adaptation leading to reduction in the level of anxiety among the pre operative cardio thoracic surgery clients.



Conceptual Frame Work – Modified Roy's Adaptation Model

RESEARCH METHODOLOGY

CHAPTER III

RESEARCH METHODOLOGY

The methodology of research indicates the general pattern of organizing the procedure for assembling valid and reliable data for investigation. This chapter provides a brief explanation of the method adopted by the investigator in this study. It includes the research approach, research design, and variables, setting of the study, population, sample and sample size, sampling technique, description of the tool, pilot study, data collection procedure and plan for data analysis. The present study is aimed to evaluate the effectiveness of mindfulness therapy on anxiety among preoperative clients in cardio thoracic surgery ward at GRH, Madurai.

3.1 Research approach

The research approach is the most essential part of any research. The entire study is based on it. A research approach tells the researcher about the collection of data that is what to collect, when to collect, how to collect and how to analyze. It also helps the researcher with suggestions of possible conclusions to be drawn from the data. A quantitative approach was adopted in the present study as the investigation is aimed at evaluating the effectiveness of mindfulness therapy on anxiety among preoperative clients in cardio thoracic surgery ward at GRH Madurai.

3.2 Research design

The research design is the plan, structure and strategy of investigations of answering the research question. It is the overall plan or blueprint the researcher select to carry out the study. The investigator used True experimental pre test and post test control group design for this study.

	Group	Pretest	Intervention	Post test
R	Interventional group	O_1	X	O_2
	Control group	O_1	_____	O_2

R - Randomization.

O1 - Pre test level of Anxiety among preoperative clients in cardio thoracic surgery.

X - (30 minutes daily in the morning and evening for 5consecutive days).

O2- Post test level of Anxiety among preoperative clients on day before surgery .

3.3 Variables

Independent variable

Mindfulness therapy

Dependent variable

Level of Anxiety

3.4 Settings of the study:

The setting was selected based on acquaintance of the investigator with the institution, feasibility of conducting the study, availability of the sample, permission and proximity of the setting for investigation.

The study was conducted at the preoperative cardio thoracic surgery ward, Government Rajaji Hospital Madurai. It is the second biggest Government Medical college Hospital in Tamil Nadu. It has all specialty departments .This is one of the main cardio thoracic surgery unit is serving the people of south Tamil Nadu. The Hospital is equipped with bed strength of 3106 beds. Cardio thoracic ward is equipped with bed strength of 75. The accessible population comprises of preoperative clients in cardiothoracic ward, at GRH In 2016 -15,443 OP patients, 907 in patients treated and 345 surgery have done in department of cardio thoracic surgery.

3.5 Population

Target population

Target population comprises of all preoperative clients in cardio thoracic surgery.

Accessible population

The accessible population comprises of preoperative clients in cardio thoracic surgery ward, at GRH, Madurai.

3.6 Sample

In the present study the sample consisted of preoperative clients in cardio thoracic surgery ward, GRH, Madurai and those who fulfilled the inclusion criteria.

3.7 Sample size

The sample size was 40 preoperative cardio thoracic surgery clients (20 in the interventional group, 20 in the control group).

3.8 Sampling technique

Sampling technique used in the study was Probability sampling (Simple Random) Technique. 40 preoperative clients were included in the study who fulfilled the sampling criteria.

3.9 Criteria for sample selection

The study sample was selected by the following inclusion and exclusion criteria.

Inclusion criteria

- Clients who were admitted in preoperative cardio thoracic ward and waiting for cardio thoracic surgery.
- Clients who can speak and understand Tamil .
- Preoperative cardio thoracic clients who were not underwent mindfulness therapy.

Exclusion criteria

- Clients who were not available at the time of data collection .
- Clients who were critically ill.
- Clients who were not willing to participate in this study.
- Clients who were on minor tranquilizer.

3.10 Research tool and technique

- The tool used for the study was Hamilton Anxiety Rating scale .
- The technique used in the study is structured interview.
- The tool consists of two sections.

1. Part 1 deals with socio demographic data of the samples.
2. Part 2 consists of 14 items, Hamilton anxiety rating scale to assess the level of anxiety

Part 1

The socio demographic variable had a total of 10 items. It includes age, gender, religion, education, occupation, type of family, family income per month, area of residence, , duration of illness.

Part 2

The tool used for this study is Hamilton anxiety rating scale to assess the level anxiety.Consisted of 14 items questionnaire ,with each answer scored on a scale ranging from 0 to 4 which designed to measure the level of anxiety. Scoring 0- no anxiety,1- mild, 2-moderate, 3 –severe ,4- very severe .

Scoring pattern:

Minimum score: 0

Maximum score: 56

3.11 Scoring procedure

SCORES	LEVEL OF ANXIETY
0	No anxiety
1-17	Mild
18-24	Moderate
25-30	Severe
31-56	Very severe

3.12 Testing of the tool

Reliability of the tool

The reliability of an instrument is the degree of consistency with which it measures the attribute and it is supposed to be measuring over a period of time. The Tool was a standardized one. Test retest method was used to assess the internal consistency which reached satisfactory reliability score of r = 0.85. Hence the tool was considered as reliable and was used in this study.

Validity of the tool

The tool was validated by 3 experts from the field of Psychiatric nursing, Psychiatrist and Clinical Psychologist. The experts were requested to check the relevance, sequence and adequacy of the items in the interview schedule and the meaning of tool.

3.13 Pilot study

A pilot study was conducted at preoperative cardio thoracic surgery ward among 5 preoperative cardio thoracic clients (who were not included in the main Study) who fulfill the inclusion criteria with regard to the setting. After testing the validity and reliability of the tool with the cooperation of the clients and the availability of the

sample, in a manner in which a final study would be done. It was carried over for the period of 7 days from 6.03.2017 to 12.03.2017. The findings of the pilot study revealed that there was a significant difference in the level of anxiety between the pretest and post test among preoperative cardio thoracic clients. The pilot study revealed that the study tool was feasible and practicable.

3.14 Ethical consideration

This study was conducted after the approval from the Ethics committee Madurai Medical College, Madurai-20. All the respondents were carefully informed about the purpose of the study and their part during the study and how the privacy was guarded. Confidentiality was ensured. Written permission was obtained from all participants.

3.15 Data collection Procedure

- Formal permission was obtained from Institutional Review Board / Ethical Committee of Government Rajaji Hospital, Madurai-20 and Professor and Head of the Department of psychiatry, Government Rajaji Hospital, Madurai.
- Before conducting the study, a brief self introduction and explanation regarding the nature and purpose of the intervention was given.
- The investigator explained the purpose of the study and informed written and oral consent was obtained from the subjects.
- The study participant's preoperative anxiety level assessed by using Hamilton anxiety rating scale.
- Period of study was six weeks.
- Total sample size was 40, (Twenty considered as interventional group and another twenty considered as a control group). Approximately 6-8 preoperative cardio thoracic clients selected per week by simple random sampling technique (lottery method).Pre test was done for interventional group and control group by using Hamilton anxiety rating scale.

On day one Mindfulness therapy was given to interventional group for 30 minutes daily in the morning and evening for 5 consecutive days. On day before surgery post test was conducted for both interventional group and control group by same Hamilton anxiety rating scale. The data was collected for the duration of 6 weeks from 15.03.17 to 30.04.17.

3.16 Plan for data analysis

The data collected was analyzed by means of descriptive statistics, and inferential statistics.

Descriptive statistics

1. Analysis of the baseline data was done by using frequency and percentage.
2. Preoperative anxiety among cardio thoracic surgery clients was analyzed by computing frequency, percentage, mean and standard deviation.

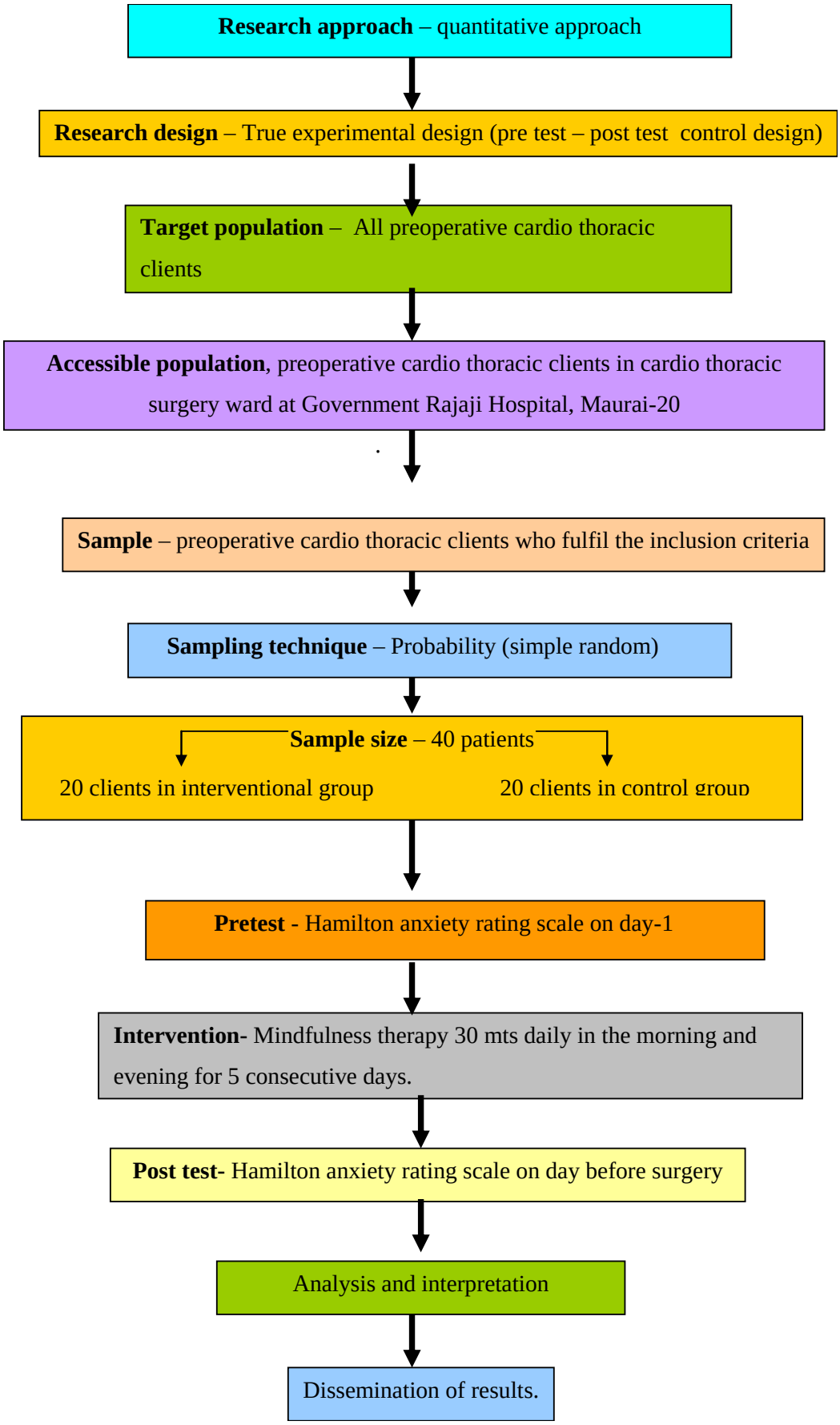
Inferential statistics

1. Paired "t" test, unpaired "t" test was used to find out the effectiveness of mindfulness therapy on preoperative anxiety.
2. Chi-square analysis was used to determine the association between the level of anxiety and selected socio demographic variables among preoperative cardio thoracic clients in cardio thoracic surgery ward.

3.17 Protection of human rights

The investigator obtained approval from the dissertation committee of College of Nursing, Madurai, Institutional Review board, Head of the department of Psychiatric, and Principal College of Nursing. Both verbal and written consent was obtained from all the participants. The subjects were informed that they can withdraw from the study without any penalty. Confidentiality and anonymity was maintained throughout the study.

Schematic Representation of Research Methodology



ANALYSIS AND INTERPRETATION OF DATA

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis of the data collected. Statistical procedure enabled the investigator to deduce, summarize, organize, evaluate, interpret and communicate the numeric information. Statistical analysis is a method of rendering quantitative information meaningful and intelligible. In this chapter the data collected were edited, tabulated, analyzed and interpreted.

The data collected were organized under the following sections

Section I

Distribution of socio demographic variables among preoperative cardio thoracic clients.

Section II

Description of level of anxiety among the preoperative cardio thoracic clients in the interventional and the control group.

Section III

Effectiveness of mindfulness therapy on anxiety among preoperative cardio thoracic clients

Section IV

Association between level of anxiety score among preoperative cardio thoracic clients and their selected socio - demographic variables.

Section - I

Distribution of socio demographic variables among preoperative cardio thoracic clients in interventional group and control group

Table -1

Distribution of clients according to their socio demographic variables

Socio demographic variables		Group				χ^2
		Interventional(n=20)		Control(n=20)		
		f	%	f	%	
Age	13- 20 years	2	10.0%	2	10.0%	χ2=0.57 P=0.90 DF=3 NS
	21- 35 years	4	20.0%	4	20.0%	
	36- 50 years	8	40.0%	6	30.0%	
	51- 65 years	6	30.0%	8	40.0%	
Gender	Male	12	60.0%	12	60.0%	χ2=0.00 P=1.00 DF=1 NS
	Female	8	40.0%	8	40.0%	
Religion	Hindu	19	95.0%	20	100.0%	χ2=1.02 P=0.31 DF=1 NS
	Muslim	1	5.0%	0	0.0%	
	Christian	0	0.0%	0	0.0%	
Education	Primary Education	7	35.0%	6	30.0%	χ2=0.41 P=0.98 DF=4 NS
	High School education	8	40.0%	8	40.0%	
	Higher Secondary	2	10.0%	2	10.0%	
	Graduate and above	2	10.0%	2	10.0%	
	No formal Education	1	5.0%	2	10.0%	

Occupation	Private employee	1	5.0%	4	20.0%	$\chi 2$=4.55 P=0.33 DF=4 NS
	Coolie	11	55.0%	8	40.0%	
	Self employee	4	20.0%	3	15.0%	
	House wife	4	20.0%	3	15.0%	
	Un employee	0	0.0%	2	10.0%	
Area of residence	Rural	14	70.0%	13	65.0%	$\chi 2$=0.11 P=0.73DF=1 NS
	Urban	6	30.0%	7	35.0%	
Family income per month	< Rs.5000	11	55.0%	10	50.0%	$\chi 2$=0.11 P=0.94 DF=2 NS
	Rs.5001 - Rs.10000	7	35.0%	8	40.0%	
	Rs.10001-15000	2	10.0%	2	10.0%	
Type of family	Nuclear family	15	75.0%	17	85.0%	$\chi 2$=0.62. P=0.42 DF=1 NS
	Joint family	5	25.0%	3	15.0%	
Duration of illness	< 6 months	8	40.0%	9	45.0%	$\chi 2$=0.49P=0.92 DF=3 NS
	6 -12 months	4	20.0%	3	15.0%	
	1 -2 years	2	10.0%	3	15.0%	
	> 2 years	6	30.0%	5	25.0%	
Duration of treatment	< 6 months	10	50.0%	12	60.0%	$\chi 2$=1.08P=0.78 DF=3 NS
	6 -12 months	3	15.0%	2	10.0%	
	1 -2 years	2	10.0%	3	15.0%	
	> 2 years	5	25.0%	3	15.0%	

The above table portrays that in control group majority of the preoperative cardio thoracic clients 8 (40.0%) belonged to the age group between 51-65 years, 6

(30.0%) belonged to the age group between 36-50 years, 4 (20.0%) belonged to the age group between 21-35 years, and 2(10.0%) belonged to the age group between 13 – 20 years. whereas in the in the interventional group majority 8 (40.0%) belonged to the age group between 36-50 years, 6 (30.0%) belonged to the age group between 51-65 years, 4 (20.0%) belonged to the age group between 21-35 years, 2(10.0%) belonged to the age group between 13 – 20 years,

Regarding gender, in the control group 12 (60.0%) of the pre-operative cardiothoracic patients were males, and the remaining 8 (40%) were females, whereas in the interventional group 12 (60.0%) of the pre-operative cardiothoracic were males 8 (40%) were females.

While comparing religion, in the control group majority 20 (100%) were belonged to Hindu religion whereas in the interventional group 19 (95%) were Hindus, and the remaining 1 (5%) was Muslim and none of them were belonged to Christian.

Regarding the educational status, in the control group majority 8 (40%) had studied up to high school education, and 6 (30%) had studied up to primary level education and 2 (10%) had studied up to higher secondary education and 2 (10%) had studied up to graduate and 2 (10%) had no formal education. On the other hand in the interventional group, 8 (40%) had. Studied up to high school education, 7 (35%) had studied up to primary level education, 2 (10%) had studied up to higher secondary education and 2 (10%) had studied up to graduate and 1 (5%) had no formal education

While discussing the occupation in the control group majority 8 (40%) were coolie workers, 4 (20%) were private employees, 3 (15%) were self employees, 3 (15%) were house wife and 2 (10%) were unemployed whereas in the interventional group 11 (55%) were coolie workers,, 4 (20%) were self employees, 4 (20%) were house wife, 1 (5%) was private employee and none of them unemployed

Regarding area of residence in the control group majority 13 (65%), hailed from rural area, 7 (35%) hailed from urban area, whereas in the interventional group majority 14 (70%) hailed from rural area and 6 (30%) hailed from urban area respectively.

While comparing the family income, majority in the control group 10 (50%) earned less than Rs.5000 per month, 8 (40%) earned between Rs.5001- Rs.10000, 2 (10%) earned between Rs.10001- Rs.15000, whereas in the interventional group 11 (55%) earned less than Rs.5000 7 (35%) earned between Rs.5001- Rs.10000, 2 (10%) earned between Rs.10001- Rs.15000 per month.

Regarding type of family, in the control group majority 17 (85%) hailed from nuclear family and the remaining 3 (15%) of them hailed from joint family, whereas in the interventional group majority 15 (75%) hailed from nuclear family and the remaining 5 (25%) of them hailed from joint family

While discussing the duration of illness, in the control group majority 9 (45%) were had less than 6 months , 5 (25%) were had more than 2 years , 3 (15%) were had 1-2 years and 3 (15%)were had 6-12 months, whereas in the interventional group 8 (40%) were had less than 6 months , 6 (30%) were had more than 2 years, 4 (20%) were had 6-12 months and 2 (10%) were had 1-2 years.

Regarding duration of treatment, in the control group majority 12 (60%) were had less than 6 months, 3 (15%) were had 1-2 years, 3 (15%) were had 6-12 months and 2 (10%) were had more than 2 years, where as in the interventional group 8 (40%) were had less than 6 months, 6 (30%) were had more than 2 years, 4 (20%) were had 6-12 months, and 2 (10%) were had 1-2 years .

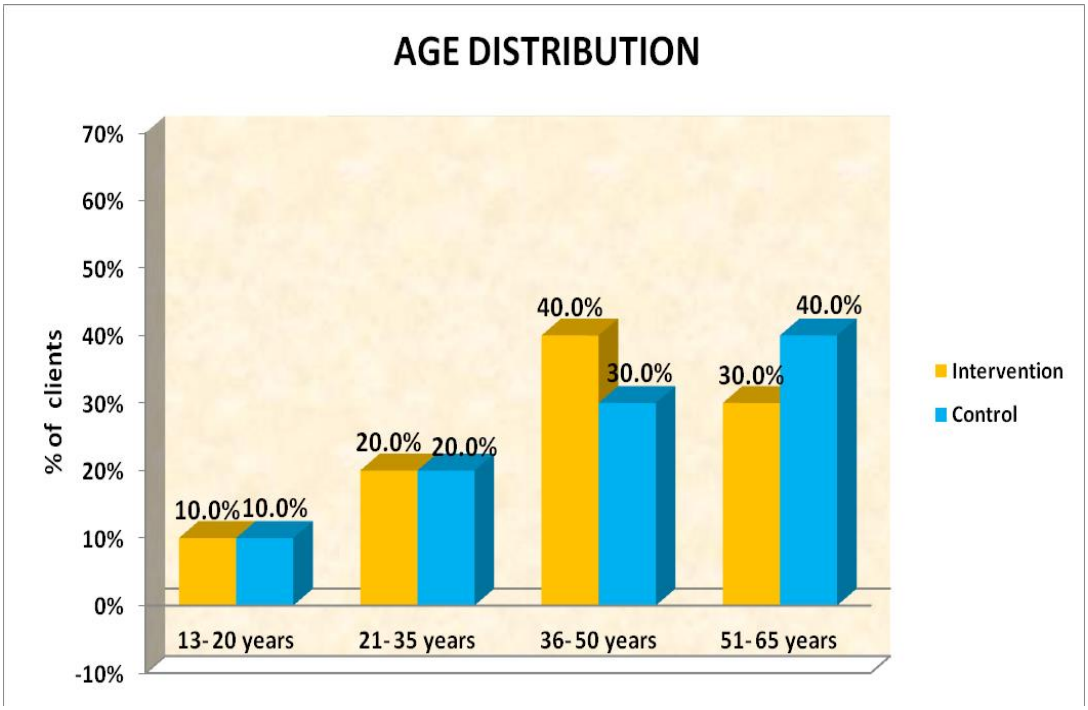


Figure: 2 A multiple bar diagram showing distribution of preoperative cardio thoracic clients according to their age

In the control group majority 8 (40.0%) belonged to the age group between 51-65 years, 6 (30.0%) belonged to the age group between 36-50 years, 4 (20.0%) belonged to the age group between 21-35 years, and 2 (10.0%) belonged to the age group between 13 – 20 years, whereas in the interventional group majority *8* (*40.0*%) belonged to the age group between *36*-50 *years*, *6* (*30.0*%) belonged to the age group between 51-65 years, 4 (*20.0*%) belonged to the age group between *21-35* years, 2(10.0%) belonged to the age group between 13 – 20 years.

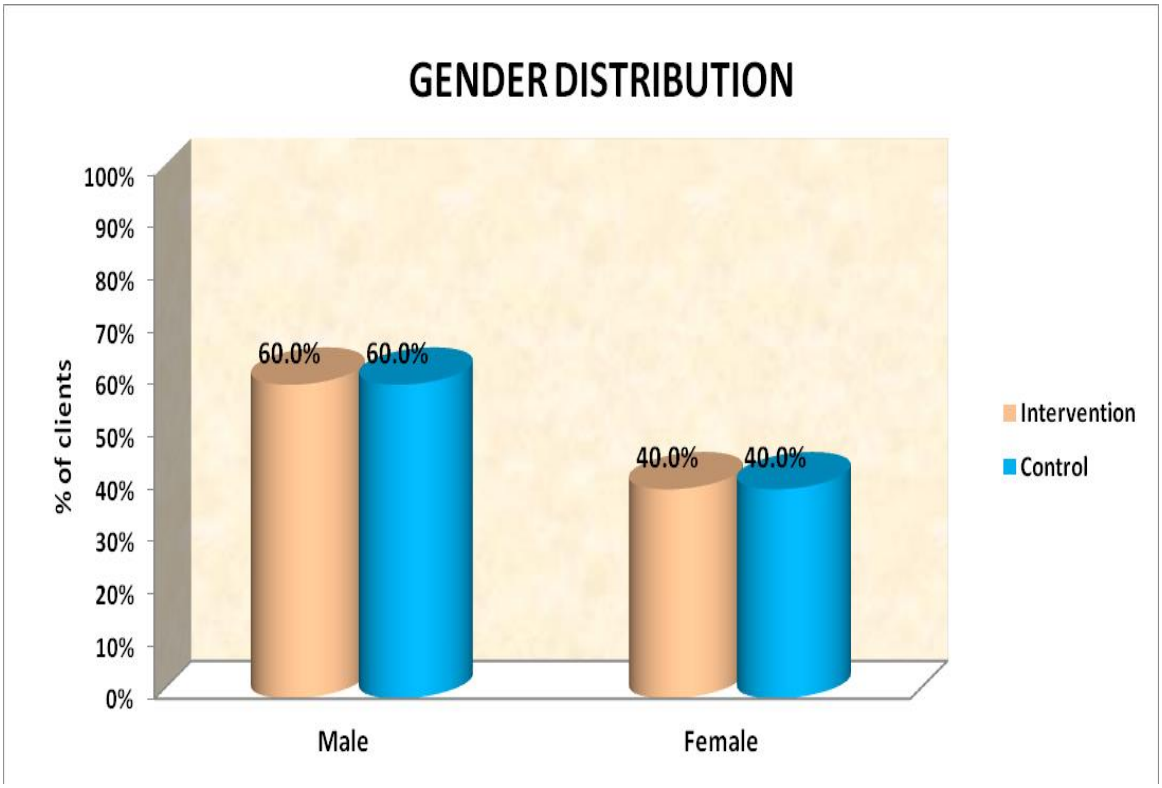


Figure: 3 A multiple bar diagram showing distribution of preoperative cardio thoracic clients according to their gender

In the control group 12 (60.0%) of the pre-operative cardiothoracic clients were males, and the remaining 8 (40%) were females. whereas in the interventional group majority 12 (60.0%) were males 8 (40%) were females.

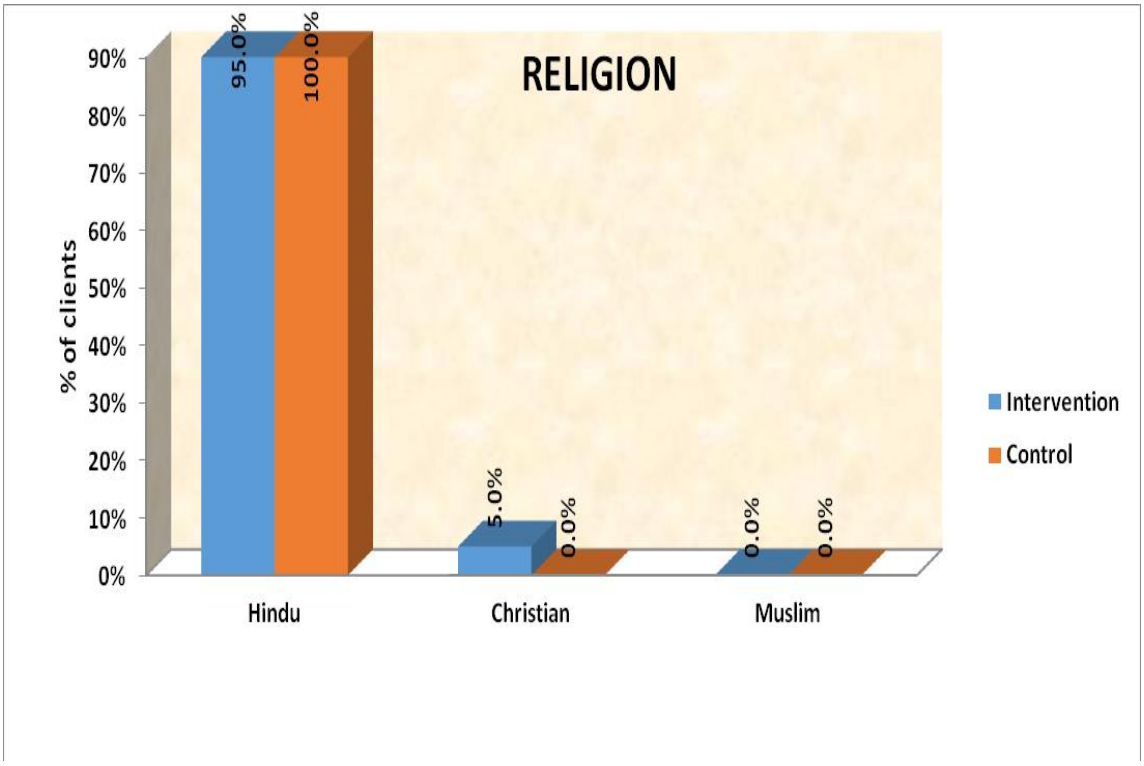


Figure: 4 A multiple bar diagram showing distribution of preoperative cardio thoracic clients according to their religion

In the control group majority 20 (100%) were belonged to Hindu religion whereas in the interventional group 19 (95%) were Hindus, and the remaining 1 (5%) was Muslims and none of them were belonged to Christian.

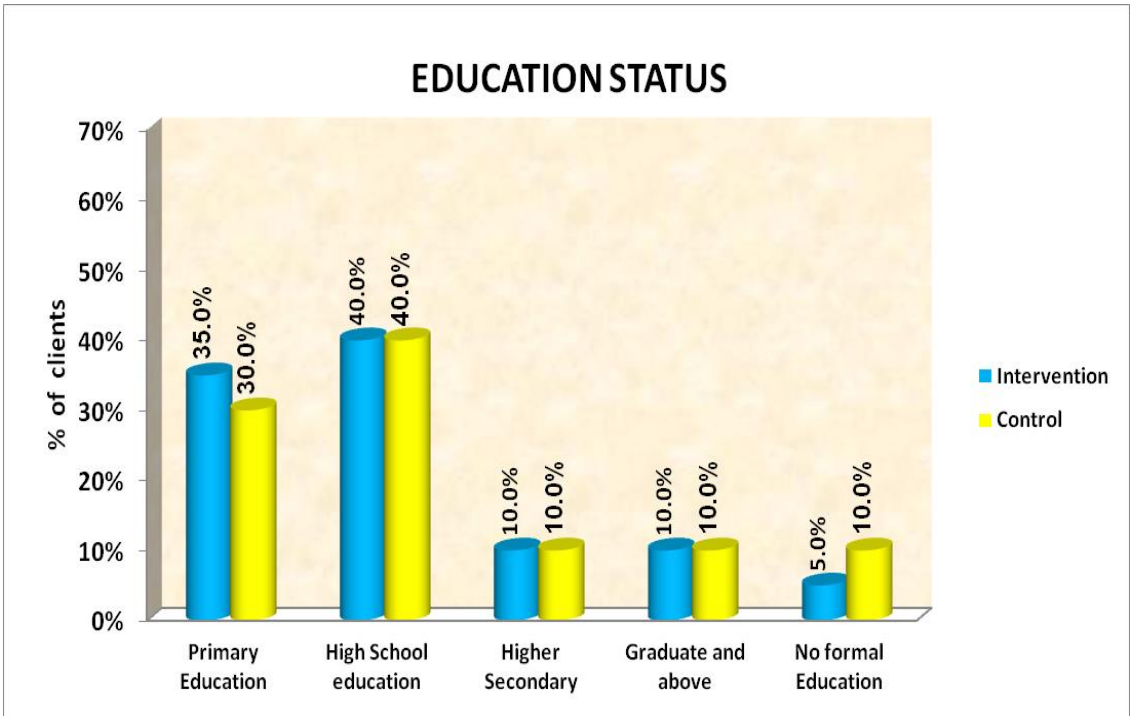


Figure: 5 A multiple bar diagram showing distribution preoperative cardio thoracic clients according to their educational status

In the control group majority 8 (40.0%) had studied up to high school education, and 6 (30%) had studied up to primary level education, 2 (10.0%) had studied up to higher secondary education, 2 (10%) had studied up to graduate and 2 (10.0%) had no formal education. On the other hand in the interventional group, 8 (40.0%) had studied up to high school education, and 7 (35.0%) had studied up to primary level education and 2 (10.0%) had studied up to higher secondary education , 2 (10.0%) had studied up to graduate and 1(5.0%) had no formal education.

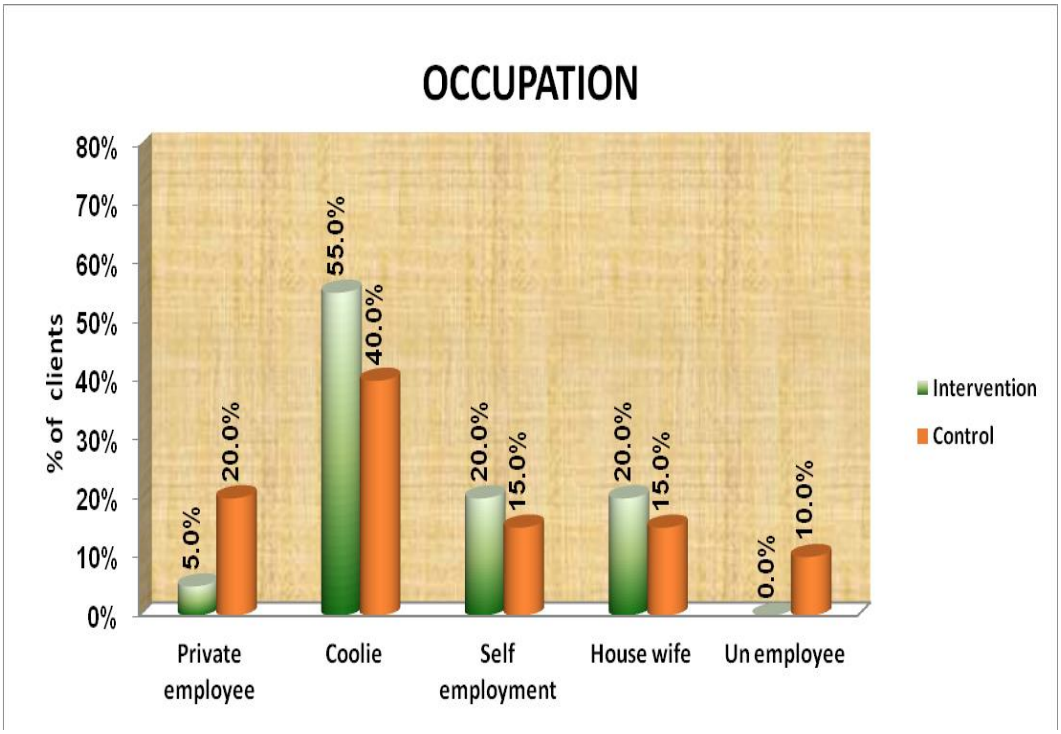


Figure: 6 A multiple cylinder diagram showing distribution of preoperative cardio thoracic clients according to their occupation

Majority of the preoperative cardio thoracic clients in the control group 8 (40%) were coolie workers, 4 (20%) were private employees, 3 (15%) were self-employees, 3(15%) were house wives and 2(10%) were unemployed whereas in the interventional group 11 (55%) were coolie workers,, 4 (20%) were self-employees, 4 (20%) were house wives 1 (5%) was private employee and none of them unemployed .

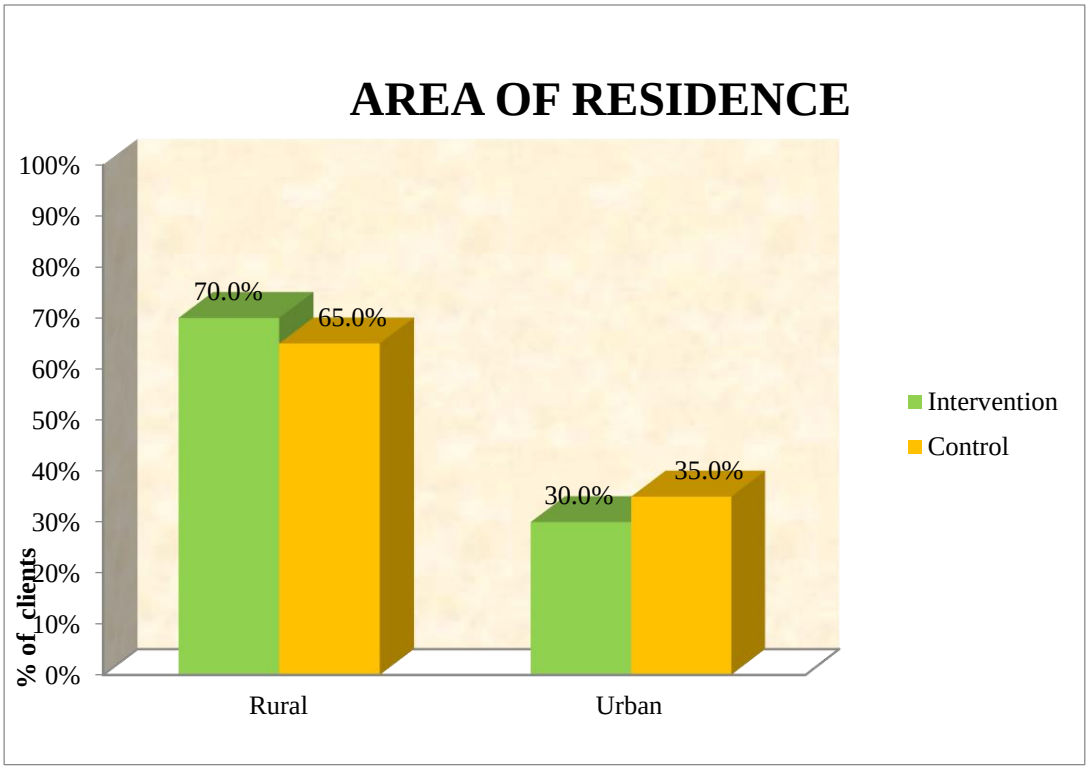


Figure: 7 A multiple bar diagram showing distribution of preoperative cardio thoracic clients according to their area of residence

Majority of the clients in the control group 13 (65%), hailed from rural area,7 (35%) hailed from urban area, whereas in the interventional group majority 14 (70%) hailed from rural area, and 6 (30%) hailed from urban area respectively

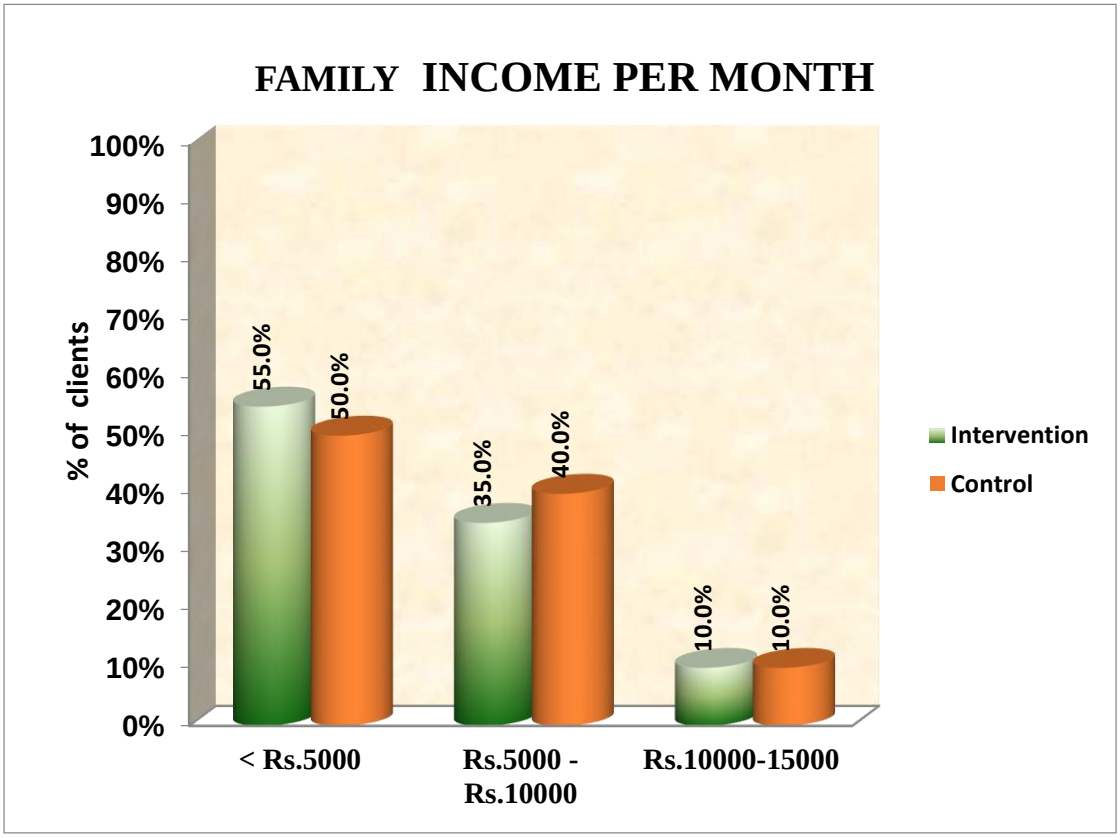


Figure: 8 A multiple cylinder diagram showing distribution of preoperative cardio thoracic clients according to their family income per month

Majority of the clients in the control group 10 (50%) earned less than Rs.5000 per month, 8 (40%) earned between Rs.5001- Rs.10000, 2 (10%) earned between Rs.10001- Rs.15000, whereas in the interventional group 11 (55%) earned less than Rs.5000, 7 (35%) earned between Rs.5001- Rs.10000, and 2 (10%) earned between Rs.10001- Rs.15000 per month.

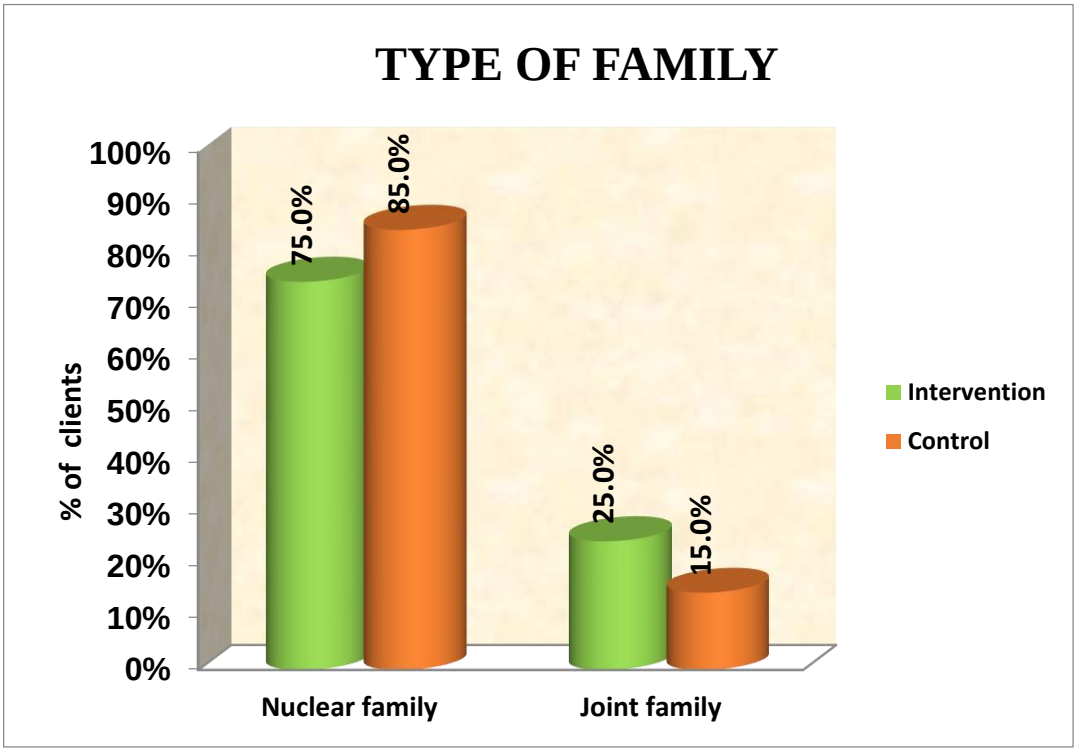


Figure: 9 A multiple cylinder diagram showing distribution of preoperative cardio thoracic clients according to their type of family.

Majority of the clients in the control group 17 (85%) hailed from nuclear family and the remaining 3 (15%) of them hailed from joint family, whereas in the interventional group majority 15 (75%) hailed from nuclear family and the remaining 5 (25%) of them hailed from joint family.

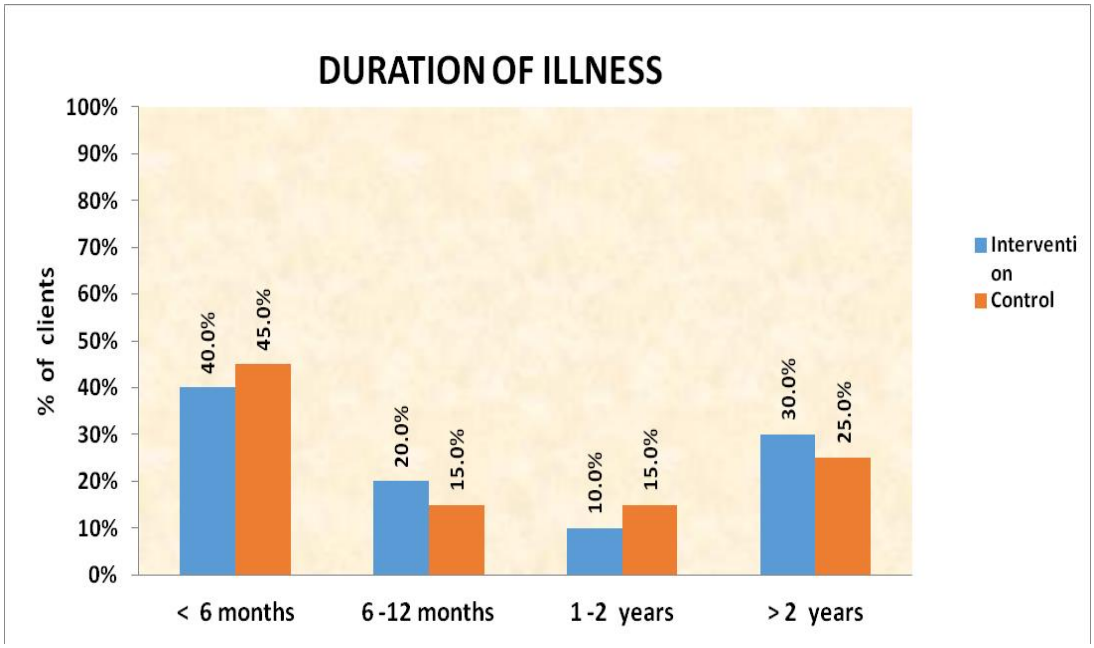


Figure: 10 A multiple bar diagram showing distribution of preoperative cardio thoracic clients according to duration of illness

Majority of the clients in the control group 9 (45%) were had less than 6 months, 5 (25%) were had more than 2 years , 3 (15%) were had 1-2 years and 3 (15%) were had 6-12 months, whereas in the interventional group 8 (40%) were had less than 6 months and 6 (30%) were had more than 2 years , 4 (20%) were had 6-12 months and 2 (10%) were had 1-2 years .

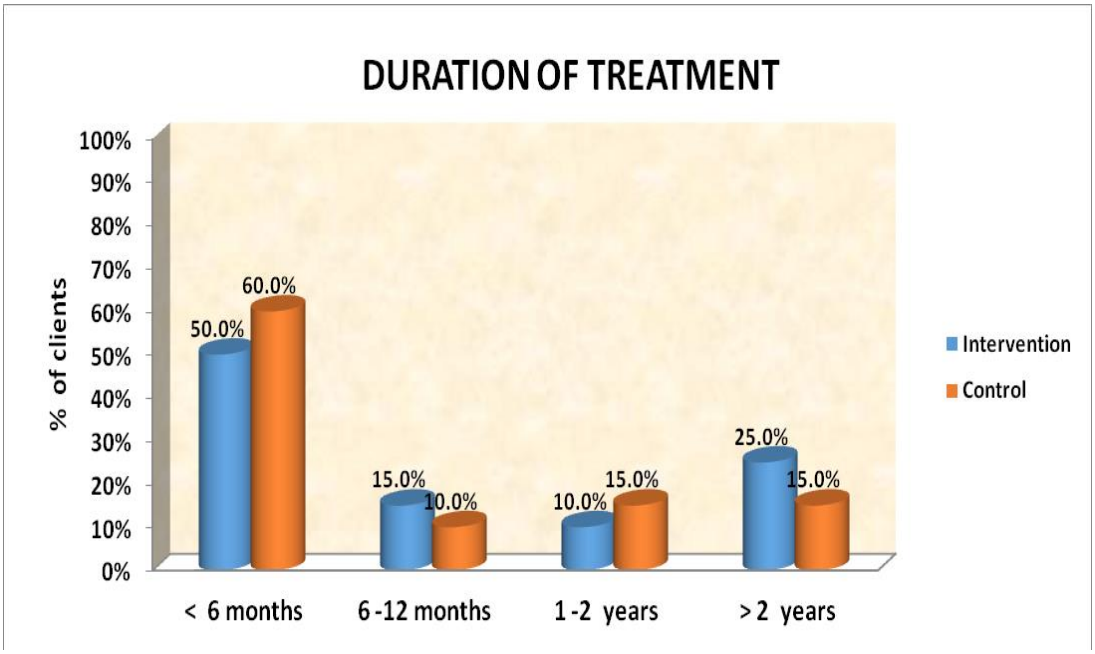


Figure: 11 A multiple cylinder diagram showing distribution of preoperative cardio thoracic clients according to duration of treatment

Majority of the clients in the control group 12 (60%) were had less than 6 months, 3 (15%) were had 1-2 years, 3 (15%) were had 6-12 months and 2 (10%) were had more than 2 years, where as in the interventional group 8 (40%) were had less than 6 months, 6 (30%) were had more than 2 years, 4 (20%) were had 6-12 months, and 2 (10%) were had 1-2 years.

Section - II

Description of level of anxiety among preoperative cardio thoracic clients in the interventional and the control group.

Table- 2

Frequency and percentage distribution of preoperative cardio thoracic clients according to their pretest level of anxiety

Level of anxiety	Group				χ^2
	Interventional(n=20)		Control(n=20)		
	f	%	f	%	
No anxiety	0	0.0%	0	0.0%	χ^2=0.22 P=0.63 DF=1 NS
Mild	2	10.0%	3	15.0%	
Moderate	18	90.0%	17	85.0%	
Severe	0	0.0%	0	0.0%	
Very severe	0	0.0%	0	0.0%	
Total	20	100%	20	100%	

The above table 2 shows the pretest level of anxiety among preoperative clients in cardio thoracic surgery ward at GRH Madurai in the interventional and Control group.

In the pretest majority 18 (90%) of them had moderate level, 2 (10.0%) of them had mild level of anxiety none of them had severe anxiety or very severe anxiety in the interventional, whereas in the control group, 17 (85.0%) of them had moderate level 3(15.0%) of them had mild level , none of them had anxiety, severe anxiety or very severe anxiety.

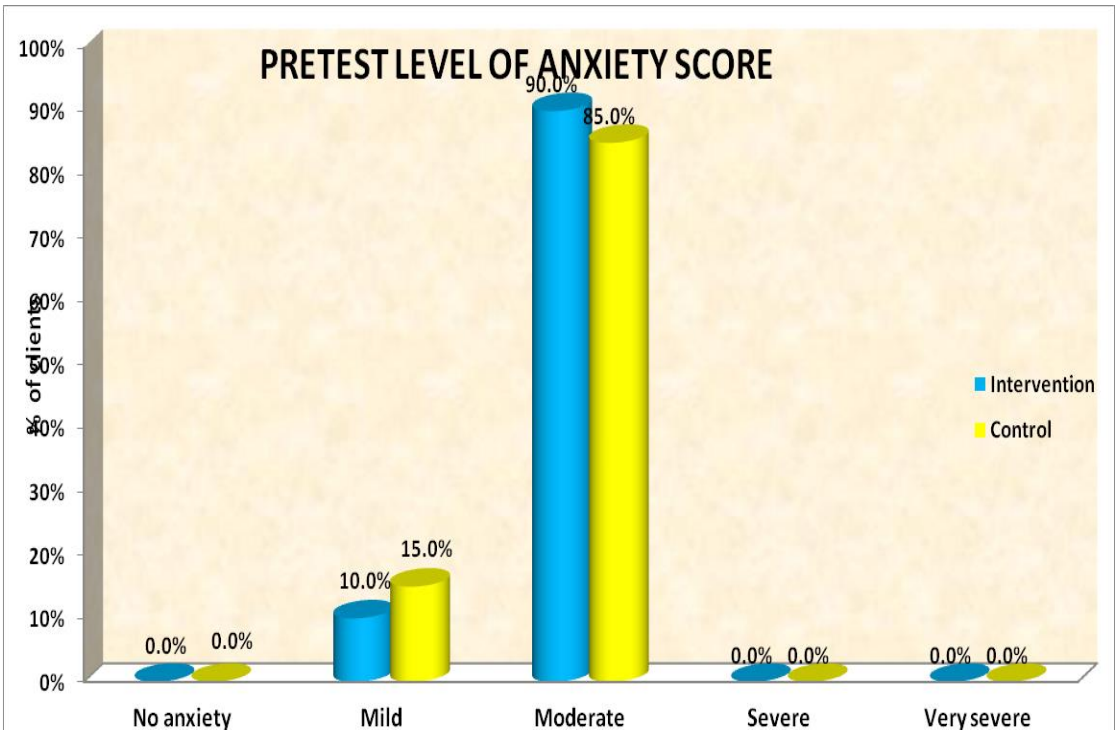


Figure: 12 A multiple cylindrical diagram showing distribution of clients according to pretest level of anxiety score in the interventional and control group

In the pretest majority 18 (53.3%) of them had moderate level 2 (10.0%) of them had mild level of anxiety in the interventional group, whereas in the control group 17 (85.0%) of them had moderate level and 3 (15%) of them had mild level of anxiety.

Table 3

Frequency and percentage distribution of preoperative cardio thoracic clients according to their posttest level of anxiety

Level of anxiety	Group				Chi square test
	Interventional (n=20)		Control (n=20)		
	f	%	f	%	
No anxiety	0	0.0%	0	0.0%	χ^2=8.12P=0.01** DF=1 S
Mild	14	70.0%	5	25.0%	
Moderate	6	30.0%	15	75.0%	
Severe	0	0.0%	0	0.0%	
Very severe	0	0.0%	0	0.0%	
Total	20	100%	20	100%	

The above able 3 shows the posttest level of anxiety among preoperative clients in cardio thoracic surgery ward at GRH Madurai in the interventional and Control group.

In the post test 14 (70.0%) of them had mild level, 6 (30%) of them had moderate level, none of them had severe anxiety, or very severe anxiety in the interventional group, whereas in the control group 15 (75%) of them had moderate level, 5 (25%) of them had mild level of anxiety. Statistically there was a significant difference between interventional group and control group. Statistical significance was confirmed by using chi square test.

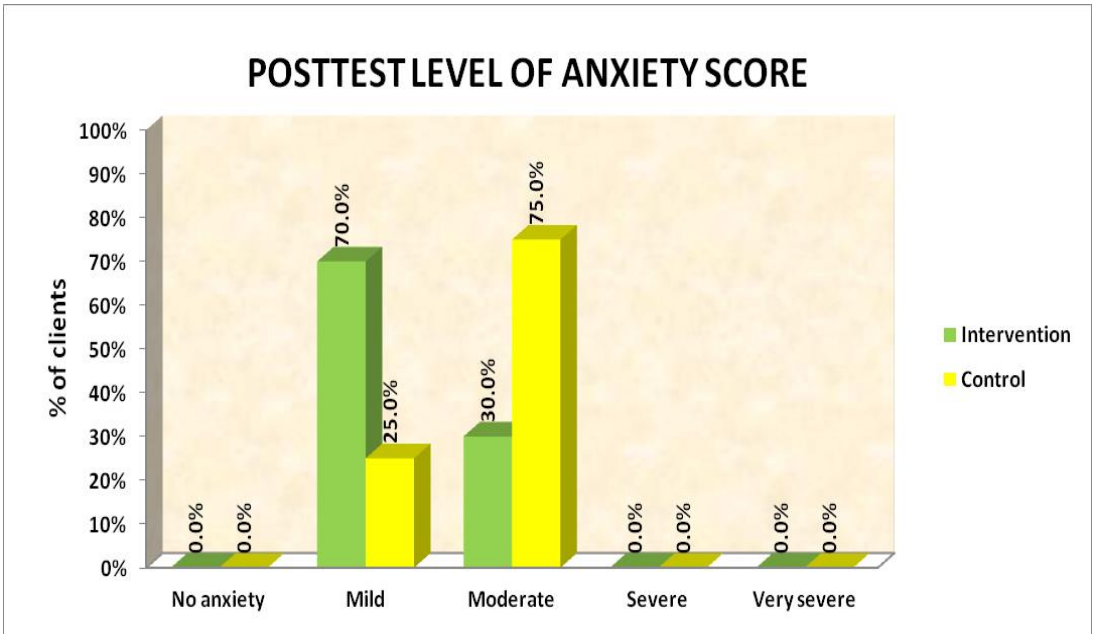


Figure: 13 A multiple bar diagram showing distribution of clients according to posttest level of anxiety score in the interventional and control group

In the post test 14 (70.0%) of them had mild level, 6 (30%) of them had moderate level, none of them had severe anxiety or very severe anxiety in the interventional group, whereas in the control group 15 (75%) of them had moderate level, 5 (25%) of them had mild level of anxiety. Statistically there is a significant difference between interventional group and control group. Statistical significance was confirmed using chi square test.

Section - III

Effectiveness of mindfulness therapy on anxiety among preoperative cardio thoracic clients

Table- 4

Mean and standard deviation of pre test and post test level of anxiety among preoperative cardio thoracic clients in the interventional and control group

		No. of clients	Anxiety score		Mean Difference	Student's independent t-test
			Mean	SD		
Pretest	Intervention	20	20.25	1.58	0.15	t=0.25 P=0.80
	Control	20	20.10	2.10		DF =38 significant
Posttest	Intervention	20	12.10	4.19	7.75	t=7.51P=0.001***
	Control	20	19.85	1.95		DF =38 significant

DF= Degrees of Freedom * very high significant at P≤0.05**

The above table 4 depicts the effect of mindfulness therapy on anxiety scores between interventional group and control group. In order to find out the effect of mindfulness therapy among preoperative clients student's independent t- test was done.

In pretest, mean anxiety score was 20.25 and standard deviation of 1.58 in the intervention group, where as in control group mean score 20.10 and standard deviation of 2.10. The mean difference between intervention and control group was 0.15 score. This difference is small and it is not statistically significant

In posttest, mean anxiety score was 12.10 with a standard deviation of 4.19 where as in control group mean score was 19.85 with a standard deviation of 1.95. The mean difference between intervention and control group was 7.75 anxiety score. This difference is large and it is statistically significant.

This revealed that there was a significant difference between pretest and post test in the intervention group. Student's independent t-test also showed a significant difference between the pre test and post test in the interventional group this difference was due to the intervention mindfulness therapy. Hence mindfulness therapy was effective in reducing the level of anxiety among preoperative cardio thoracic clients

Table 5

Comparison of pretest and posttest anxiety score among preoperative cardio thoracic clients in the interventional group and control group.

		No. of clients	Anxiety score		Mean Difference	Student's Paired t-test
			Mean	SD		
Intervention	Pretest	20	20.25	1.58	8.15	t=7.31P=0.001*** DF =19 significant
	Posttest	20	12.10	4.19		
Control	Pretest	20	20.10	2.10	0.25	t=0.71P=0.48 DF =19 not significant
	Posttest	20	19.85	1.95		

***significant at P≤0.05** highly significant at P≤0.05 not significant P>0.05**

Above table no 5 compares the anxiety score between pre-test and post test.In intervention group, clients were had 20.25 and in post test they were had 12.10, so the difference is 8.15 score. The difference between pretest and post test is 8.15 anxiety score. This difference is large and it is statistically significant. Differences between pre test and post test anxiety score was analyzed by using students paired t-test.

In the control group, clients were had 20.10 score and in post test they were had 19.85, so the difference is 0.25 score. The difference between pretest and post test is 0..25 anxiety score. This difference is very minimal and it is not statistically significant. Differences between pretest and post test anxiety score was analyzed by using students paired t-test.

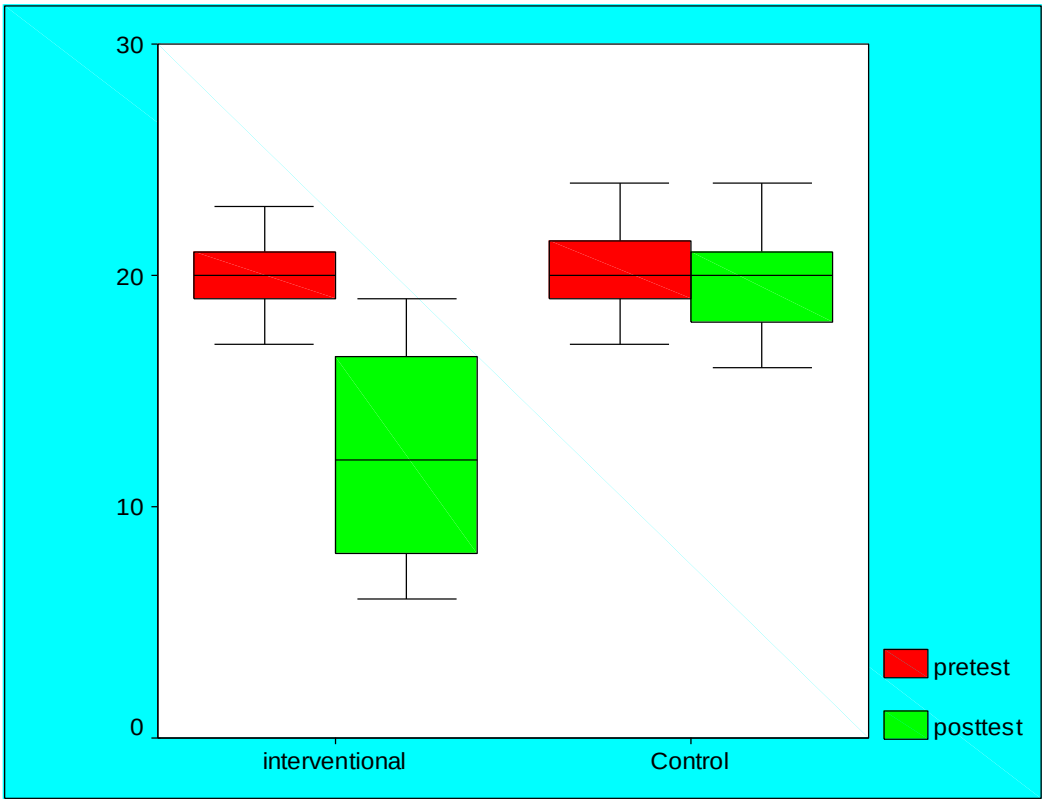


Figure: 14 Box-plot portrays the mean pretest and posttest anxiety score among preoperative cardio thoracic clients between intervention and control group

In intervention group, clients were had 20.25 and in post test they were had 12.10, so the difference is 8.15 score. The difference between pre-test and post test is 8.15 anxiety score. This difference is large and it is statistically significant. Differences between pre-test and post test anxiety score was analyzed by using students paired t-test.

In the control group , clients were had 20.10 score and in post test they were had 19.85, so the difference is 0.25 score. The difference between pretest and post test is 0..25 anxiety score. This difference is very minimal and it is not statistically significant

Differences between pretest and post test anxiety score was analyzed by using students paired t-test

Table- 6

Percentage of anxiety reduction score. among preoperative cardio thoracic clients between intervention and control group

		Max score	***Anxiety score*** **Mean ± SD**	**Mean Difference in anxiety score with 95% Confidence interval**	**Percentage of anxiety score with 95% Confidence interval**
Intervention	Pretest	56	20.25± 1.58	8.15 (5.82 -10.48)	14.6 % (10.4% –18.7%)
	posttest	56	12.10± 2.10		
Control	Pretest	56	20.10± 2.10	0.25 (-0.49 -0.99)	0.4% (-0.9% –1.8%)
	posttest	56	19.85± 1.95		

Above table no 6 portrays the effectiveness of the study, on an average, intervention group clients had 14.6% of anxiety reduction score where as control group clients were only 0.4% of anxiety reduction. This difference shows the effectiveness of mindfulness therapy Difference between pre test and post test score was analyzed using mean difference with 95% confidence interval and proportion with 95% Confidence interval.

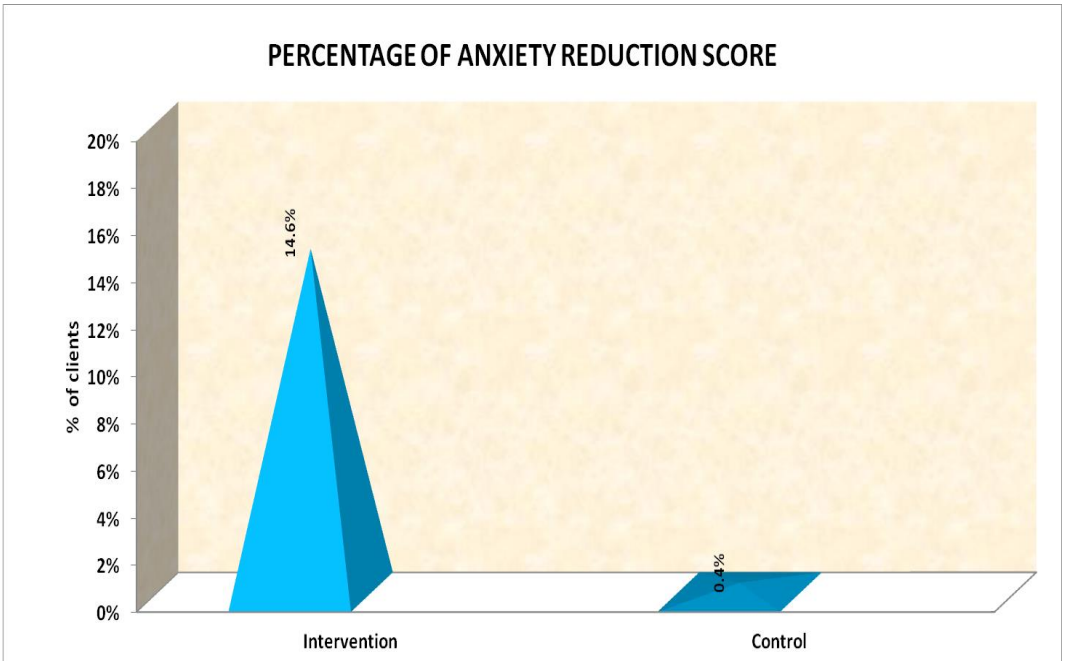


Figure: 15 A cone diagram showing the comparison of the reduction of anxiety among preoperative cardio thoracic clients in the interventional and control group

In intervention group clients had 14.6% of reduction of Anxiety score, whereas control group clients had only 0.4% of anxiety reduction. This difference shows the effectiveness of mindfulness therapy. Difference between pretest and posttest score was analyzed by using mean difference with 95% confidence interval and proportion with 95% Confidence interval.

Section - IV

Association between pretest level of anxiety score among preoperative cardiothoracic clients in cardio thoracic ward in GRH with their selected socio demographic variables. (Interventional group)

Table – 7

Association between pretest level of anxiety score among preoperative cardiothoracic clients with their socio demographic variables

Demographic variables		Pretest level of anxiety score				n	χ^2
		Mild		Moderate			
		f	%	f	%		
Age	13- 20 years	1	50.0%	1	50.0%	2	χ^2=5.18 P=0.16 DF=3 NS
	21- 35 years	0	0.0%	4	100.0%	4	
	36- 50 years	0	0.0%	8	100.0%	8	
	51- 65 years	1	16.7%	5	83.3%	6	
Gender	Male	1	8.3%	11	91.7%	12	χ^2=0.09 P=0.76 DF=1 NS
	Female	1	12.5%	7	87.5%	8	
Religion	Hindu	2	10.5%	17	89.5%	19	χ^2=0.12 P=0.73 DF=1 NS
	Muslim	0	0.0%	1	100.0%	1	
Education	Primary Education	2	28.6%	5	71.4%	7	χ^2=4.12 P=0.39 DF=4 NS
	High School education	0	0.0%	8	100.0%	8	
	Higher Secondary	0	0.0%	2	100.0%	2	
	Graduate and above	0	0.0%	2	100.0%	2	
	No formal Education	0	0.0%	1	100.0%	1	

Occupation	Private employee	0	0.0%	1	100.0%	1	$\chi 2$=1.82 P=0.62 DF=3 NS
	Coolie	2	18.2%	9	81.8%	11	
	Self employment	0	0.0%	4	100.0%	4	
	House wife	0	0.0%	4	100.0%	4	
Area of residence	Rural	2	14.3%	12	85.7%	14	$\chi 2$=0.95 P=0.32 DF=1 NS
	Urban	0	0.0%	6	100.0%	6	
Family income per month	< Rs.5000	1	9.1%	10	90.9%	11	$\chi 2$=0.37 P=0.82 DF=2 NS
	Rs.5000 - Rs.10000	1	14.3%	6	85.7%	7	
	Rs.10000-15000	0	0.0%	2	100.0%	2	
Type of family	Nuclear family	2	13.3%	13	86.7%	15	$\chi 2$=1.24P=0.26 DF=1 NS
	Joint family	0	0.0%	5	100.0%	5	
Duration of illness	< 6 months	1	12.5%	7	87.5%	8	$\chi 2$=1.01 P=0.78 DF=3 NS
	6 -12 months	0	0.0%	4	100.0%	4	
	1 -2 years	0	0.0%	2	100.0%	2	
	> 2 years	1	16.7%	5	83.3%	6	
Duration of treatment	< 6 months	1	10.0%	9	90.0%	10	$\chi 2$=1.11 P=0.79 DF=3 NS
	6 -12 months	0	0.0%	3	100.0%	3	
	1 -2 years	0	0.0%	2	100.0%	2	
	> 2 years	1	20.0%	4	80.0%	5	

DF= Degrees of Freedom NS= not significant

The above table 7 reveals the association between the pre test anxiety score and their selected socio demographic variables among preoperative cardio thoracic clients in cardio thoracic surgery ward in interventional group.

In order to find out the association between pre test score of anxiety and their socio demographic variables, chi square analysis was done. As indicated among the preoperative cardio thoracic clients anxiety level in the pre test, there was no significant association between the level of anxiety and their socio demographic variables.

Table- 8

Association between posttest level of anxiety score with their socio demographic variables (Intervention group)

Demographic variables		Posttest level of anxiety score				n	χ^2
		Mild		Moderate			
		f	%	f	%		
Age	13- 20 years	2	100.0%			2	χ^2=3.92 P=0.26 DF=3 NS
	21- 35 years	4	100.0%			4	
	36- 50 years	5	62.5%	3	37.5%	8	
	51- 65 years	3	50.0%	3	50.0%	6	
Sex	Male	8	66.7%	4	33.3%	12	χ^2=0.16 P=0.69 DF=1 NS
	Female	6	75.0%	2	25.0%	8	
Religion	Hindu	14	73.7%	5	26.3%	19	χ^2=2.45 P=0.11 DF=1 NS
	Muslim			1	100.0%	1	
Education	Primary Education	5	71.4%	2	28.6%	7	χ^2=1.29 P=0.86 DF=4 NS
	High School education	6	75.0%	2	25.0%	8	
	Higher Secondary	1	50.0%	1	50.0%	2	
	Graduate and above	1	50.0%	1	50.0%	2	
	No formal Education	1	100.0%			1	
Occupation	Private employee	1	100.0%			1	χ^2=3.11 P=0.37 DF=3 NS
	Coolie	7	63.6%	4	36.4%	11	
	Self employment	2	50.0%	2	50.0%	4	
	House wife	4	100.0%			4	
Area of residence	Rural	12	85.7%	2	14.3%	14	**χ^2=5.48 P=0.02* DF=1 S**
	Urban	2	33.3%	4	66.7%	6	

Family income per month	< Rs.5000	5	45.4%	6	54.6%	11	**χ2=7.01 P=0.03* DF=2 S**
	Rs.5000-Rs.10000	7	100.0%	0	0.0%	7	
	Rs.1000 -15000	2	100.0%	0	0.0%	2	
Type of family	Nuclear family	9	56.2%	6	43.8%	15	**χ2=4.35 P=0.04* DF=1 S**
	Joint family	4	75.0%	1	25.0%	5	
Duration of illness	< 6 months	8	100.0%	0	0.0%	8	**χ 2=7.70 P=0.05* DF=3 S**
	6 -12 months	3	75.0%	1	25.0%	4	
	1 -2 years	1	50.0%	1	50.0%	2	
	> 2 years	2	33.3%	4	66.7%	6	
Duration of treatment	< 6 months	10	100.0%	0	0.0%	10	**χ2=10.63 P=0.01 **DF=3 S**
	6 -12 months	2	66.7%	1	33.0%	3	
	1 -2 years	1	50.0%	1	50.0%	2	
	> 2 years	1	20.0%	4	80.0%	5	

DF= Degrees of Freedom S=Significant NS= not significant

The above table 8 reveals the association between the post test anxiety score and their selected socio demographic variables among preoperative cardio thoracic clients in cardio thoracic surgery ward in the intervention group.

In order to find out the association between post test score of anxiety and their socio demographic variables, a chi square analysis was done. As indicated among the preoperative cardio thoracic clients anxiety changes in the post test. There was a

significant association between level of anxiety and their socio demographic variables such as, residence area ($\chi 2$=5.48 p=0.02*DF=1), Family income per month ($\chi 2$=7.01 p=0*DF=3), type of family ($\chi 2$=4.35 p=0.04*DF=1), duration of illness ($\chi 2$=7.70 p=0.05*DF=3), duration of treatment ($\chi 2$=10.63 p=0.01**DF=3), (e.g.) clients from rural area , more income, joint family , less duration of illness and less duration of treatment were had more in mild anxiety score than others. There was no significant association between other variables among preoperative cardio thoracic clients in cardio thoracic surgery ward at GRH Madurai.

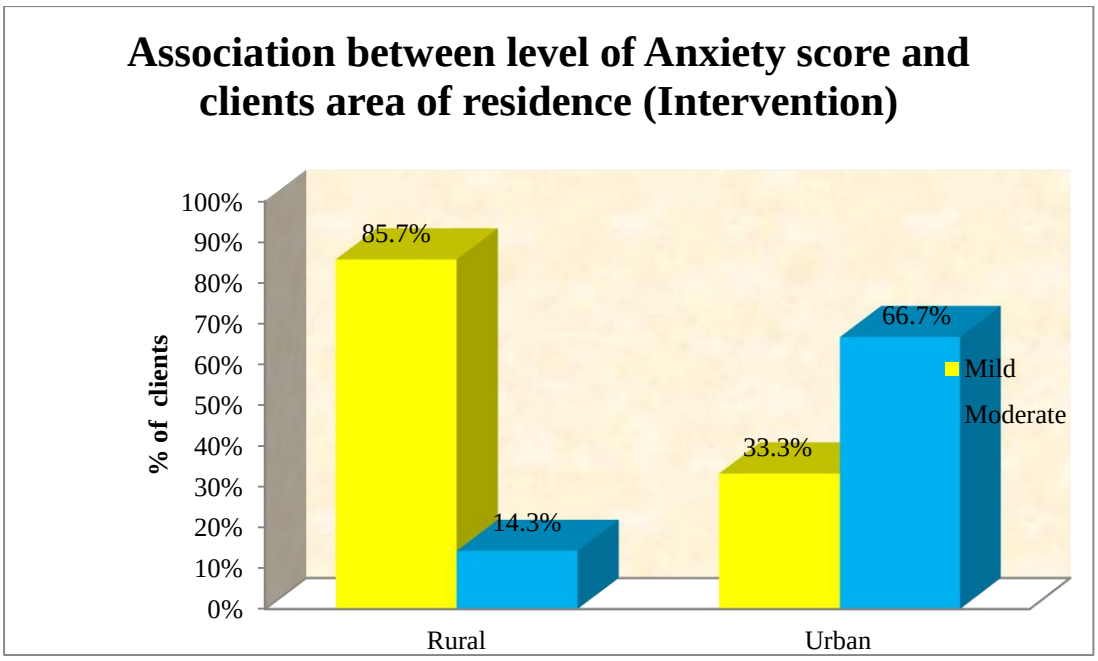


Figure: 16 A multiple bar diagram showing association between anxiety score and clients area of residence (Intervention)

Above figure depict the association between posttest anxiety score and socio demographic variables, in the interventional group rural clients had reduced level of anxiety in the post test after the intervention of (5 sessions) mindfulness therapy.

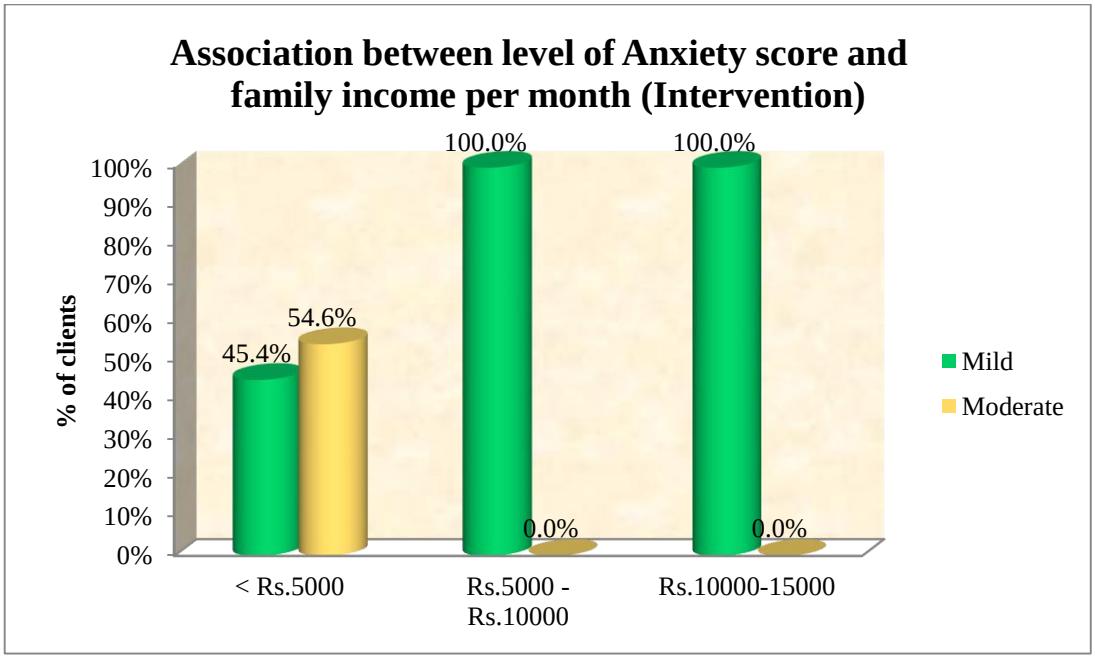


Figure: 17 A multiple bar diagram showing association between anxiety score and clients family income per month (Intervention)

Above figure mention the association between posttest anxiety score and socio demographic variables. In the interventional group family income per month 10001-15,000 clients had reduced level of anxiety in the post test after the intervention of (5 sessions) mindfulness therapy.

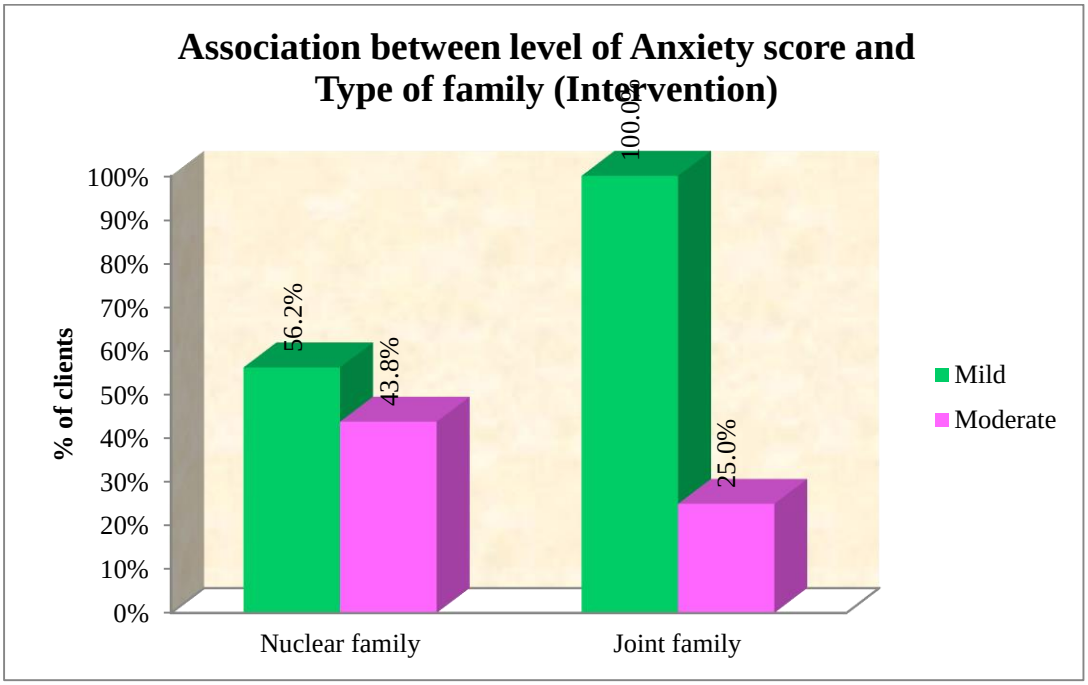


Figure: 18 A multiple bar diagram showing association between anxiety score and clients type of family (Intervention)

Above figure describes the association between posttest anxiety score and socio demographic variables. In the interventional group clients belonged to nuclear family had reduced level of anxiety in the post test after the intervention of (5 sessions) mindfulness therapy.

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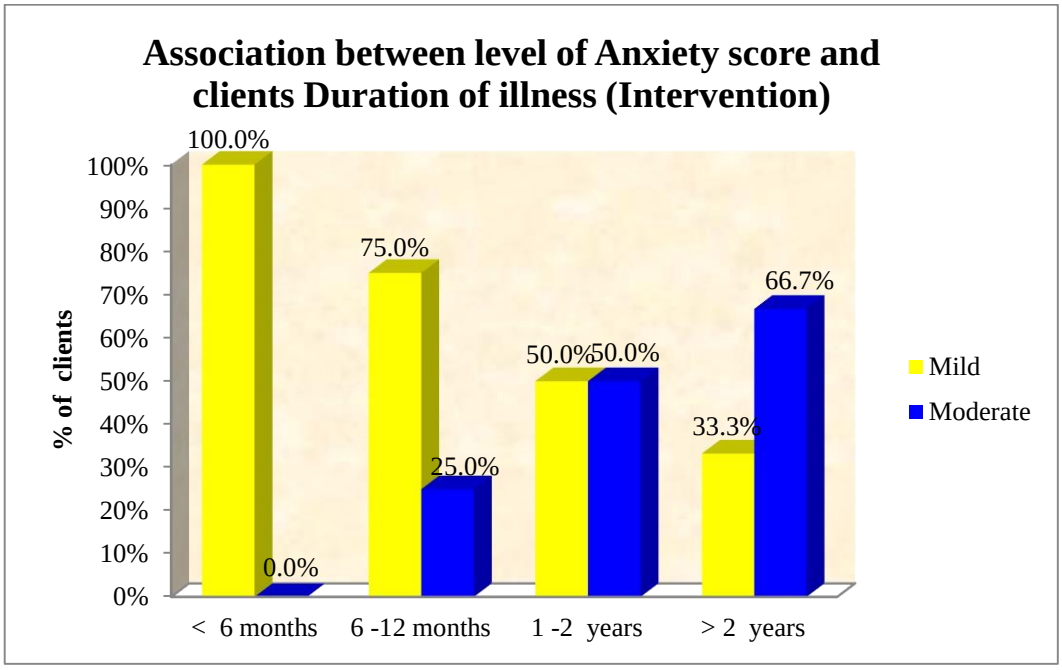

Figure: 19 A multiple bar diagram showing association between anxiety score and clients duration of illness (Intervention)

Above figure shows the association between posttest anxiety score and socio demographic variables. Clients who were less than 6 months duration of illness had reduced levels of anxiety in the post test among the interventional group after the intervention of (5sessions) mindfulness therapy.

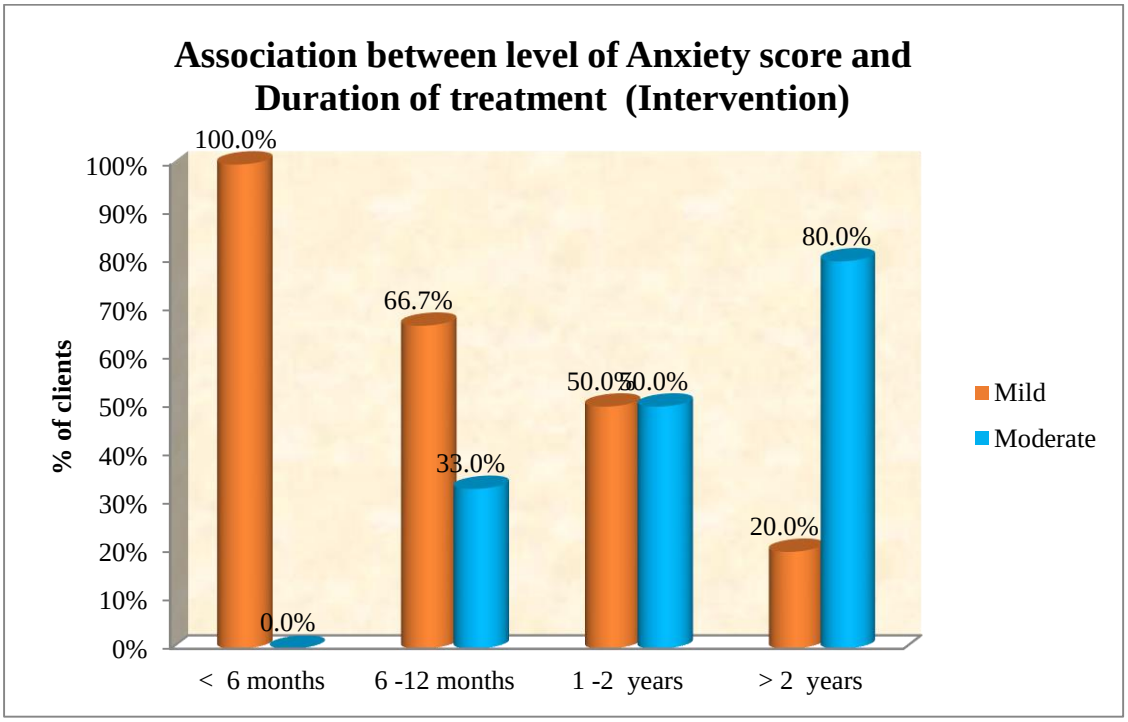

Figure: 20 A multiple cylinder diagram showing association between anxiety score and duration of treatment (Intervention)

Above figure describe the association between posttest anxiety score and socio demographic variables. Clients who had less than 6 months of duration were had reduced level of anxiety in the post test among the interventional group after the intervention of (5sessions) mindfulness therapy.

DISCUSSION

CHAPTER V

DISCUSSION

This chapter discussed about the result of the study interpreted from the statistical analysis. Mindfulness therapy is helps to feel calm and relaxing the mind. It stimulates the neurotransmitters in the brain to increase the GABA receptor and reducing the nor epinephrine which mediate arousal and anxiety reduction and feel calm.

Mindfulness therapy is a simple low cost therapeutic technique that can help counteract the fear and anxiety of pre operative surgical patients, Mindfulness is a process in which thoughts feelings and sensations are acknowledged and accepted by means of present-centered awareness. Mindfulness encourages detached, non judging observation or witnessing of thoughts, perception, sensations and emotions, which provides a means of self- monitoring and regulate one's arousal with detached awareness.

Mindfulness therapy is complimentary therapy for anxiety, fear and insomnia pain related to surgery. The benefits of mindfulness therapy include anxiety reduction, improved comfort during invasive procedures, decreased pain level following surgery, and reducing sleeping problems. Anxiety is a intense apprehension, uncertainty, and fear resulting from the anticipation of surgery, preoperative cardio thoracic clients perceive the anxiety in the day before surgery and it is the biggest and the most threatening day in their lives. Mindfulness therapy is a simple low cost therapeutic technique that can help counteract the fear and anxiety of pre operative surgical patients.

The effort of this study was to evaluate the effectiveness of mindfulness therapy on anxiety among preoperative cardio thoracic clients in cardio thoracic surgery ward

at GRH, Madurai. 40 samples were selected by Probability sampling (simple random) technique. The anxiety levels of subjects were assessed with Hamilton anxiety Rating Scale.

The objectives of the study were to

- To assess the level of anxiety among the preoperative cardio thoracic clients in the interventional group and control group in cardio thoracic surgery ward at GRH, Madurai.
- To evaluate the effectiveness of mindfulness therapy on level of anxiety among the preoperative cardio thoracic clients in cardio thoracic surgery ward at GRH, Madurai.
- To associate the level of anxiety among preoperative cardio thoracic clients in cardio thoracic surgery ward at GRH, Madurai, with their selected socio demographic variables.

The following Hypotheses were tested at 0.001 level of significance

H_1- There is a significant difference between level of anxiety among preoperative cardio thoracic clients both in the interventional group and control group in cardio thoracic surgery ward at Government Rajaji Hospital

H_2 - There is a significant association between the levels of anxiety among the preoperative cardio thoracic clients in cardio thoracic surgery ward at Government Rajaji Hospital Madurai with their selected socio demographic variables.

The findings of the study were discussed under the following headings

- Distribution of socio -demographic variables of among preoperative cardio thoracic clients in the interventional and control group.

- Description of level of anxiety among preoperative cardio thoracic clients in the interventional and control group.
- Effectiveness of mindfulness therapy on anxiety among preoperative cardio thoracic clients.
- Association between the level of anxiety among preoperative cardio thoracic clients in cardio thoracic surgery ward at GRH, Madurai with their selected socio demographic variables.

5.1 Distribution of socio -demographic variables of among preoperative cardio thoracic clients in the interventional and control group.

It is interesting to note that while mentioning about the age group of the preoperative cardio thoracic clients in control group 8 (40.0%) belonged to the age group between 51-65 years, whereas in the in the interventional group majority 8 (40.0%) belonged to the age group between 36-50 years.

Regarding gender, in the control group 12 (60.0%) of the pre-operative cardiothoracic patients were males, and the remaining 8 (40%) were females, whereas in the interventional group 12 (60.0%) of the pre-operative cardiothoracic were males 8 (40%) were females.

While comparing religion, in the control group majority 20 (100%) were belonged to Hindu religion whereas in the interventional group 19 (95%) were Hindus, and the remaining 1 (5%) was Muslim and none of them were belonged to Christian.

Regarding the educational status, in the control group majority 8 (40%) had studied up to high school education. On the other hand in the interventional group, 8 (40%) had. Studied up to high school education.

While discussing the occupation, in the control group majority 8 (40%) were coolie workers, whereas in the interventional group 11 (55%) were coolie workers.

Regarding area of residence in the control group majority 13 (65%), hailed from rural area, 7 (35%) hailed from urban area, whereas in the interventional group majority 14 (70%) hailed from rural area and 6 (30%) hailed from urban area respectively.

While comparing the family income, majority in the control group 10 (50%) earned less than Rs.5000 per month, whereas in the interventional group 11 (55%) earned less than Rs.5000 per month.

Regarding type of family, in the control group majority 17 (85%) hailed from nuclear family, whereas in the interventional group majority 15 (75%) hailed from nuclear family and the remaining 5 (25%) of them hailed from joint family.

While denoting the duration of illness, in the control group majority 9 (45%) were had less than 6 months, whereas in the interventional group 8 (40%) were had less than 6 months.

Regarding duration of treatment, in the control group majority 12 (60%) were had less than 6 months, where as in the interventional group 8 (40%) were had less than 6 months .

5.2 Discussion o the study based on the objectives

The first objective of the study was to assess the level of anxiety among the pre operative clients in the interventional group and control group in cardio thoracic surgery ward at GRH, Madurai.

Hamilton anxiety Rating Scale was used to assess the level of anxiety among pre operative cardio thoracic clients. In the pre-test, majority 18 (90.0%) were had moderate level 2 (10.0%) were had mild level and none of them had severe anxiety, or very severe anxiety in the interventional group. Whereas in the control group, 17 (85.0%) of them had moderate level, 3 (15.0%) of them had mild level, none of them had severe anxiety or very severe anxiety.

In the post test 14 (70.0%) of them had mild level, 6 (30%) of them had moderate level, none of them had severe anxiety or very severe anxiety in the interventional group. Whereas in the control group 15 (75%) of them had moderate level, 5 (25%) of them had mild level of anxiety.

The present study findings were supported by the study conducted by **R. Shodhganga** conducted a descriptive study to determine the prevalence of anxiety in a group of patients undergoing elective surgery, the target population of the study comprised of 135 patients. Amsterdam Anxiety Preoperative and Information (AAPI) scale was used for the data collection. . Data was collected 24 hours before the surgical procedure to evaluate the presence of anxiety. The results indicate that 76 percent (p = 0.001) of patient had preoperative anxiety and suggest the presence of preoperative anxiety in patients with elective surgery.

It was also supported for this study conducted by **D**. **Krannich**, a descriptive study to assess the presence of anxiety and depression in patients before and after CABG and their association with age. Hundred and forty two consecutive patients who underwent CABG were recruited for the study. They completed the Hospital Anxiety Depression scale two days before and ten days after CABG. Results revealed that 34% were clinically anxious before CABG and 24.7% after CABG. Percentage of clinical depression was little less than the anxiety. 25.8% of the patients were clinically depressed before and17.5% after CABG. Younger patients were more anxious before CABG than older ones .

The second objective of the study was to evaluate the effectiveness of mindfulness therapy on anxiety among the preoperative cardio thoracic clients in cardio thoracic surgery ward at GRH, Madurai.

The intervention of mindfulness therapy on anxiety created a vast difference between interventional group and control group. The scores obtained by preoperative cardio thoracic clients between the pretest and posttest.

In pretest, mean anxiety score was 20.25 with standard deviation 1.58 in the intervention group, where as in control group mean score 20.10 with standard deviation 2.10.. The mean difference between intervention and control group was 0.15 score. This difference is not statistically significant.

In posttest, mean anxiety score was 12.10 with a standard deviation of 4.19 where as in control group mean score was 19.85 with a standard deviation of 1.95. The mean difference between intervention and control group was 7.75 anxiety score. This difference is statistically significant.

In the interventional group the mean difference in the anxiety score with 95% confidence interval was 8.15 and percentage of anxiety score with 95% confidence interval 14.6. Whereas in the control group the mean difference in the anxiety score with 95% confidence interval was 0.25 and percentage of anxiety score with 95% confidence interval was 0.4.

This revealed that there was a significant difference between pretest and post test in the intervention group. Student's independent t-test also showed a significant difference between the pre test and post test in the interventional group this difference was due to the intervention mindfulness therapy. Hence mindfulness therapy was effective in reducing the level of anxiety among preoperative cardio thoracic clients

The findings were congruent with the study findings of **Evan M.Forman James D.Herbert** to determine the effectiveness of mindfulness therapy on reducing anxiety among preoperative patients. The researcher used the experimental method, and the study consisted of 46 samples aged 22-43 years in cardiac hospital Bangalore.

Hamilton anxiety scale was used . Experimental group was given mindfulness for anxiety of treatment components, twice a day for 1 week each group. The general conclusion is that among experimental group paired 't' test were used(t=9.53) with mean difference 1.42 as compared to control group (t=1.45) with mean difference of 0.30 .The results of the study are significant.

It was also supported the study conducted by **Carlson LE, Speca M, Patel KD, Goodey E. ,** conducted an experimental study on mindfulness meditation for Preoperative cardiac patients on anxiety symptoms, Fifty-nine patients enrolled in mindfulness meditation and daily practice for 30 minutes 7 consecutive days . Hamilton anxiety ratting scale were used to assess the anxiety symptoms before and after the mindfulness intervention.. Scores were calculated. Results of the study were anxiety change scores and practice was significant at the $p < .01$ level. Significant improvements were seen in symptoms of anxiety.

Hence the stated Hypothesis- H_1"There is a significant difference between level of anxiety among preoperative clients in the interventional group and control group in cardio thoracic surgery ward at GRH, Madurai" was accepted.

The third objective of the study was to associate the level of anxiety among the preoperative cardio thoracic clients in cardio thoracic surgery ward at GRH, Madurai with their selected socio demographic variables

In order to find out the association between level of anxiety and their socio demographic variables, a chi square analysis was done.

There was a significant association between level of anxiety and their socio demographic variables such as, **area of residence** (χ^2=5.48 p=0.02*DF=1), **family income per month** (χ^2=7.01 p=0*DF=3), **type of family** (χ^2=4.35 p=0.04*DF=1), **duration of illness** (χ^2=7.70 p=0.05*DF=3), **duration of treatment** (χ^2=10.63 p=0.01**DF=3),

(e.g.) clients from rural area , more income, joint family , less duration of illness and less duration of treatment were had more in mild anxiety score than others.

No other variables such as age, gender, religion, education, occupation, had significant association with anxiety level among preoperative cardio thoracic clients. It was confirmed by using Chi square test.

Hence the stated Hypotheses- H_2 "There is a significant association between the level of anxiety among the preoperative cardio thoracic clients in cardio thoracic surgery ward at GRH, Madurai with their selected socio demographic variables "was accepted.

SUMMARY, CONCLUSION, IMPLIMENTATION, AND RECOMENTATION

CHAPTER VI

SUMMARY, CONCLUSION IMPLICATIONS AND RECOMMENDATIONS

This chapter deals with summary, conclusion and recommendations of the study. Further it includes implications for Nursing Practice, Nursing Education, Nursing Administration and Nursing Research.

6.1 Summary of the study

The present study was done to evaluate the effectiveness of Mindfulness therapy on anxiety among preoperative cardio thoracic clients in cardio thoracic surgery ward at Govt Rajaji Hospital, Madurai.

The objectives of the study were

- To assess the level of anxiety among pre operative clients in the interventional group and control group in cardio thoracic surgery ward, at GRH, Madurai.
- To evaluate effectiveness of Mindfulness therapy on level of anxiety among pre operative clients in cardio thoracic surgery ward, at GRH, Madurai.
- To associate the level of anxiety among pre operative clients in cardio thoracic surgery ward at GRH, Madurai with their selected socio demographic variables.

Following Hypotheses were tested at 0.001 level of significance.

H_1- There is a significant difference between level of anxiety among pre operative cardio thoracic clients in the interventional group and control group in cardio thoracic surgery ward, at GRH, Madurai.

H_2 -There is a significant association between the levels of anxiety among pre operative cardio thoracic clients in cardio thoracic surgery ward, at GRH, Madurai with their selected socio demographical variables.

The study Assumption was

- **Preoperative cardio thoracic clients may experience varying level of anxiety**

In this study researcher utilized a framework based on the Modified Sister Callista Roy's Adaptation Model. As per the Roy's view, person is a bio psycho social being in constant interaction with the changing environment The study was conducted by using

True Experimental (Pre test and post test – control group) design. Probability sampling (simple random) technique was used to select the samples. The study consisted of 40 preoperative cardio thoracic clients in cardio thoracic surgery ward at Government Rajaji hospital, Madurai. After testing the validity and reliability of the tool, pilot study was conducted on 10 of the non study subjects at GRH, Madurai, to find out the feasibility and practicability. The main study was conducted from 15.3.17 to 30.4.17. Data gathered was analyzed by using both descriptive and inferential statistics.

The data collection tool consisted of two parts.

Part I

It consists of socio demographic variables of the clients. It includs age, gender, religion, education , occupation, area of residence, family income per month , type of family, duration of illness, duration of treatment.

Part 2

The tool used for this study is Hamilton anxiety rating scale. It consists of 14 items questionnaire, with each answer scored on a scale ranging from 0 to 4 which designed to measure the level of anxiety. Scoring 0- no anxiety,1- mild, 2-moderate, 3 –severe ,4- very sever anxiety.

Scoring pattern:

Maximum score: 56

Minimum score: 0

The tool was validated by experts in the field of Psychiatric Nursing, Psychiatry, and Psychology. Data collection was done by using the prescribed tool to assess the level of anxiety among preoperative cardio thoracic clients.

Collected data was analyzed by using both descriptive statistics (Mean, Standard Deviation, Frequency and Percentage) and inferential statistics (Paired', Independent "t" test and Chi-Square) and results were analyzed.

6.2 Major findings of the study

Major findings of the study were It is interesting to note that while mentioning about the age group of the preoperative cardio thoracic clients 8 (40.0%) belonged to the age group between 51-65 years, whereas in the in the interventional group majority 8 (40.0%) belonged to the age group between 36-50 years.

Regarding gender, in the control group 12 (60.0%) of the pre-operative cardiothoracic patients were males, and the remaining 8 (40%) were females, whereas in the interventional group 12 (60.0%) of the pre-operative cardiothoracic were males 8 (40%) were females.

While comparing religion, in the control group majority 20 (100%) were belonged to Hindu religion whereas in the interventional group 19 (95%) were Hindus, and the remaining 1 (5%) was Muslim and none of them were belonged to Christian.

Regarding the educational status, in the control group majority 8 (40%) had studied up to high school education. On the other hand in the interventional group, 8 (40%) had. Studied up to high school education.

While discussing the occupation in the control group majority 8 (40%) were coolie workers, whereas in the interventional group 11 (55%) were coolie workers.

Regarding area of residence in the control group majority 13 (65%), hailed from rural area, 7 (35%) hailed from urban area, whereas in the interventional group majority 14 (70%) hailed from rural area and 6 (30%) hailed from urban area respectively.

While comparing the family income, majority in the control group 10 (50%) earned less than Rs.5000 per month, whereas in the interventional group 11 (55%) earned less than Rs.5000 per month.

Regarding type of family, in the control group majority 17 (85%) hailed from nuclear family, whereas in the interventional group majority 15 (75%) hailed from nuclear family and the remaining 5 (25%) of them hailed from joint family

While denoting the duration of illness, in the control group majority 9 (45%) were had less than 6 months , whereas in the interventional group 8 (40%) were had less than 6 months ,

Regarding duration of treatment, in the control group majority 12 (60%) were had less than 6 months, where as in the interventional group 8 (40%) were had less than 6 months .

In the pre-test, majority 18 (90.0%) were had moderate level 2 (10.0%) were had mild level and none of them had severe anxiety, or very severe anxiety in the

interventional group. Whereas in the control group, 17 (85.0%) of them had moderate level, 3 (15.0%) of them had mild level, none of them had severe anxiety or very severe anxiety.

In the post test 14 (70.0%) of them had mild level, 6 (30%) of them had moderate level, none of them had severe anxiety or very severe anxiety in the interventional group. Whereas in the control group 15 (75%) of them had moderate level, 5 (25%) of them had mild level of anxiety.

In pretest, mean anxiety score was 20.25 with a standard deviation 1.58 in the intervention group, where as in control group mean score 20.10 with a standard deviation 2.10.. The mean difference between intervention and control group was 0.15 score. This difference is not statistically significant.

In posttest, mean anxiety score was 12.10 with a standard deviation of 4.19 where as in control group mean score was 19.85 with a standard deviation of 1.95. The mean difference between intervention and control group was 7.75 anxiety score. This difference is statistically significant.

In the interventional group the mean difference in the anxiety score with 95% confidence interval was 8.15 and percentage of anxiety score with 95% confidence interval 14.6. Whereas in the control group the mean difference in the anxiety score with 95% confidence interval was 0.25 and percentage of anxiety score with 95% confidence interval was 0.4.

There was a significant association between level of anxiety and their socio demographic variables such as**, area of residence** (χ^2=5.48 p=0.02*DF=1), **family income per month** (χ^2=7.01 p=0*DF=3), **type of family** (χ^2=4.35 p=0.04*DF=1), **duration of illness** (χ^2=7.70 p=0.05*DF=3), **duration of treatment** (χ^2=10.63 p=0.01**DF=3),

(e.g.) clients from rural area , more income, joint family , less duration of illness and less duration of treatment were had more in mild anxiety score than others.

No other variables such as age, gender, religion, education, occupation, had significant association with anxiety level among preoperative cardio thoracic clients. It was confirmed by using Chi square test.

6.3 Conclusion

The study findings brought out the following conclusion.

The study findings evidenced that the mindfulness therapy is benefit in reducing anxiety among the preoperative cardio thoracic clients. Hence it can be used to reduce the anxiety as a complementary therapy.

6.4 Implications of the study

According to Tolima (1995), the section of the research report that focuses on nursing implications usually includes specific suggestions for nursing practice, education, administration and nursing research that can be used in the following areas of profession.

Nursing practice

- The nurses can learn to use accurate assessment of anxiety with the use of Hamilton anxiety rating Scale.
- The nurses can understand the importance of mindfulness therapy and practice along with pharmacological therapy.
- The nurses those who works in preoperative surgical ward can teach the benefits of mindfulness therapy to the preoperative clients for reducing their anxiety their level.
- The nurses can encourage to use the mindfulness therapy as a form of relaxation by all other preoperative clients in GRH Madurai.

Nursing education

- Nursing educator encourage students to learn about the assessment of anxiety by using Hamilton anxiety rating scale and motivate them to practice complimentary therapy such as mindfulness therapy in their clinical area.
- Teaching personnel's can arrange the demonstration of complimentary therapy such as laughter therapy, music therapy ,dance therapy including mindfulness therapy through various method of teaching with various A.V aids.

Nursing administration

- Nursing Administrators can provide an opportunity for nurses to attend training programme on mindfulness therapy for their personal uses and use for clients in both community and hospital settings.
- Nurse administrator can conduct the in-service education for nurses on mindfulness therapy in order to reduce the anxiety, headache, hypertension and insomnia.

Nursing research

- The study findings will encourage, further research studies on the effectiveness of mindfulness therapy in reducing anxiety among the other preoperative cardio thoracic clients.
- Based on the same study, more research can be conducted on the effectiveness of mindfulness therapy in reducing the level of anxiety such as Social anxiety, Examination anxiety.

6.5 Recommendations

- A similar study can be conducted with larger sample size and in various other settings.
- A comparative study can be done to assess the effectiveness of mindfulness therapy on individuals and in combination with other complementary therapies.
- A longitudinal study can be undertaken to see the long term effect of mindfulness therapy in reducing anxiety.
- Hence the findings of the study could be generalized with caution and can be generalized only to the particular sample and not for all the preoperative cardio thoracic clients.

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APPENDICES

APPENDIX – I

ETHICAL COMMITTEE APPROVAL LETTER

MADURAI MEDICAL COLLEGE
MADURAI, TAMILNADU, INDIA -625 020
(Affiliated to The Tamilnadu Dr.MGR Medical University,
Chennai, Tamil Nadu)

ETHICS COMMITTEE CERTIFICATE

Name of the Candidate	:	M.Velayee
Course	:	M.Sc., Nursing (Psychiatric Nursing)
Period of Study	:	2015 - 2017
College	:	MADURAI MEDICAL COLLEGE
Research Topic	:	Effectiveness of mindfulness therapy on anxiety among preoperative clients in cardio thoracic surgery ward at GRH, Madurai.
Ethical Committee as on	:	08.02.2017

The Ethics Committee, Madurai Medical College has decided to inform that your Research proposal is accepted.

Member Secretary Chairman Dean / Convenor

Prof Dr V Nagaraajan
M.D., MNAMS, D.M., Dsc.,(Neuro), Dsc(Hons)
CHAIRMAN
IEC - Madurai Medical College
Madurai

DEAN
Madurai Medical College
Madurai-20

APPENDIX - II

LETTER SEEKING AND GRANTING PERMISSION TO CONDUCT THE STUDY IN CARDIO THORACIC SURGERY WARD AT GRH, MADURAI.

From

M.Velayee

II year M.Sc (N),

College of Nursing,

Madurai medical college, Madurai-20.

To

The Head of the Department

Department of Cardio thoracic surgery,

Government Rajaji Hospital,Madurai-20

Through the proper channel,

Respected sir,

Sub:Requesting permission to conduct M.Sc (N) dissertation-study regarding

As per the curriculum recommended by the Indian Nursing Council and Tamilnadu Dr.MGR Medical University all the M.Sc (N) students are required to conduct a dissertation study for the partial fulfillment of the course.

I selected the topic for my dissertation is **"A study to evaluate the effectiveness of mindfulness therapy on anxiety among pre operative patients in cardio thoracic ward at government Rajaji hospital, Madurai".**

I humbly request you to grant me permission to do my study in this setting and complete my requirement.

Date

Thanking you

Place: Madurai

Yours sincerely,

Approved

Dr. A. Rathinavel, MS.,M.Ch.,Ph.D.,
Professor & HOD
Dept. of Cardio Thoracic Surgery
Madurai Medical College,
Madurai-625 020.

APPENDIX – III

CONTENT VALIDITY CERTIFICATES

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A-Demographic data

SECTION B- Hamilton anxiety ratting scale

Prepared for data collection by M.Velayee,II year M.Sc(N) student, college of Nursing, Madurai Medical college,Madurai,who has undertaken the study field on thesis entitled "**A STUDY TO EVALUATE THE EFFECTIVENESS OF MINDFULNESS THERAPY ON ANXIETY AMONG PREOPERATIVE PATIENTS IN CARDIOTHORACIC SURGERY WARD AT GOVERNMENT RAJAJI HOSPITAL MADURAI"** has been validated by me.

10/03/17.

SIGNATURE OF THE EXPERT

Name: Mrs. Joy Christy M.Sc(N).

Designation: Asst. Professor. Mental Health Nursing

Institution: C.S.I. Jayaraj Annapackiam College of Nsg., Pasumalai Madurai.

C.S.I. JEYARAJ ANNAPACKIAM COLLEGE OF NURSING AND ALLIED SCIENCES
MERRY DEW HILLS
JOHNSPURAM
PASUMALAI
MADURAI - 625 004.

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A-Demographic data

SECTION B- Hamilton anxiety ratting scale

Prepared for data collection by M.Velayee ,II year M.Sc(N) student, college of Nursing, Madurai Medical college,Madurai,who has undertaken the study field on thesis entitled "**A STUDY TO EVALUATE THE EFFECTIVENESS OF MINDFULNESS THERAPY ON ANXIETY AMONG PREOPERATIVE PATIENTS IN CARDIOTHORACIC SURGERY WARD AT GOVERNMENT RAJAJI HOSPITAL MADURAI"** has been validated by me.

R. Jancy Rachel Daisy

SIGNATURE OF THE EXPERT

Name: DR. R. JANCY RACHEL DAISY,

Designation: PROFESSOR CUM HOD OF PSYCHIATRIC NURSING

Institution: C.S.I. JEYARAJ ANNAPACKIAM COLLEGE OF NURSING, PASUMALAI, MADURAI-4.

C.S.I. JEYARAJ ANNAPACKIAM COLLEGE OF NURSING AND ALLIED SCIENCES
MERRY DEW HILLS
JONESPURAM
PASUMALAI
MADURAI - 625 004.

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A-Demographic data

SECTION B- Hamilton anxiety ratting scale

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G. Gomathy
SIGNATURE OF THE EXPERT

Name: G. Gomathy

Designation:

PRINCIPAL
CHITHIRAI COLLEGE OF NURSING
MADURAI -9

Institution:

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A-Demographic data

SECTION B – Hamilton anxiety ratting scale

Prepared for data collection by M.Velayee IIyear M.Sc(N) student, college of Nursing ,Madurai Medical college, Madurai, who has undertaken the study field on thesis entitled "**A STUDY TO EVALUATE THE EFFECTIVENESS OF MINDFULNESS THERAPY ON ANXIETY AMONG PREOPERATIVE PATIENTS IN CARDIOTHORACIC SURGERY WARD AT GOVERNMENT RAJAJI HOSPITAL MADURAI"** has been validated by me.

SIGNATURE OF THE EXPERT

Name: N. SURESH KUMAR, M.A., M.Phil.
Asst. Prof. Cum Clinical Psychologist
Dept. of Psychiatry
Madurai Medical College
Madurai-20.

Designation:

Institution:

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A-Demographic data

SECTION B- Hamilton anxiety ratting scale

Prepared for data collection by M.Velayee,II year M.Sc(N) student, college of Nursing, Madurai Medical college,Madurai,who has undertaken the study field on thesis entitled "**A STUDY TO EVALUATE THE EFFECTIVENESS OF MINDFULNESS THERAPY ON ANXIETY AMONG PREOPERATIVE PATIENTS IN CARDIOTHORACIC SURGERY WARD AT GOVERNMENT RAJAJI HOSPITAL MADURAI"** has been validated by me.

SIGNATURE OF THE EXPERT

Name: Dr. T. KUMANAN

Designation: Dr. T. KUMANAN, M.D.(PSY).DPM
Reg. No. 42857
Professor of Psychiatry / Senior Civil Surgeon
Madurai Medical College / Govt. Rajaji Hospital
Madurai

Institution:

APPENDIX - IV

INFORMED CONSENT FORM

NAME :

DATE :

Here I am acknowledge that information regarding the project study topic was explain to me and the positive reason was pointed out. I am voluntarily willing to participate in the study. At any time I am free to exclude from the study and promised that my all personal information should be kept in confidential.

Signature of the participants

ஒப்புதல் அறிக்கை

பெயர்: **நாள்:**

எனக்கு இந்தசெவிலியஆய்வினைப் பற்றிய முழு விவரம் விளக்கமாகஎடுத்துரைக்கப்பட்டது. இந்தஆய்வில் பங்குகொள்வதில் உள்ளநன்மைகள் மற்றும் தீமைகள் பற்றிமுழுமையாகபுரிந்துகொண்டேன். இந்தஆய்வில் தானாகமுன் வந்துபங்குபெறுகிறேன். மேலும் எனக்கு இந்தஆய்விலிருந்துஎந்தசமயத்திலும் விலகிக்கொள்ள முழு அனுமதிவழங்கப்பட்டுள்ளது. என்னுடையபெயர்மற்றும் அடையாளங்கள் ரகசியமாகவைத்துக்கொள்ளப்படும் என்றும் எனக்குஉறுதியளிக்கப்பட்டுள்ளது.

கையொப்பம்

APPENDIX - V

LETTER SEEKING AND GRANTING PERMISSION TO CONDUCT THE PILOT STUDY IN CARDIO THORACIC SURGERY WARD AT GRH, MADURAI.

From

M.Velayee

II year M.Sc (N),

College of Nursing,

Madurai medical college, Madurai-20.

To

The Head of the Department

Department of Cardio thoracic surgery,

Government Rajaji Hospital,Madurai-20

Through the proper channel,

Respected sir,

Sub:Requesting permission to conduct M.Sc (N) pilot-study regarding

As per the curriculum recommended by the Indian Nursing Council and Tamilnadu Dr.MGR Medical University all the M.Sc (N) students are required to conduct a pilot study for the partial fulfillment of the course.

I selected the topic for my dissertation is "**A study to evaluate the effectiveness of mindfulness therapy on anxiety among pre operative patients in cardio thoracic ward at government Rajaji hospital, Madurai".**

I humbly request you to grant me permission to do my study in this setting and complete my requirement.

Date

Thanking you

Place: Madurai

Yours sincerely,

Velayee

Approved

Dr. A. Rathinavel, M.S.,M.Ch.,Ph.D.,
Professor & HOD
Dept. of Cardio Thoracic Surgery
Madurai Medical College,
Madurai-625 020.

APPENDIX - VI
SOCIO-DEMOGRAPHIC DATA – ENGLISH
SECTION A
SOCIO DEMOGRAPHIC VARIABLES

Sample No. : _____ **Place :_____**
Age : _____ **Date : _____**

1. Age
a) 13 yrs - 20 yrs
b) 21 yrs - 35 yrs
c) 36 yrs - 50 yrs
d) 51 yrs - 65 yrs

2 . Gender
a). Male
b).Female

3. Religion
a). Hindu
b).Christian
c).Muslim
d).Others

4. Education status
a). Primary Education
b).High School education
c).Higher Secondary
d).Graduate and above
e).No formal Education

5. Occupation
a). Private employee
b).coolie
c).Self employment
d).House wife
e).Un employee

6. Area of Residence
a). Rural
b).Urban

7. Total Family Income
a) < Rs .5000 per month
b) Rs.5000 - Rs.10000 per month
c) Rs.10000-15000 per month
d) > Rs. 15000 per month

8. Type of Family
a). Nuclear family
b). Joint family
c). Extended family

9. Duration of illness
a) < 6 months
b) 6 months to 1 year
c) 1 to 2 years
d) More than 2 yrs

10. Duration of treatment
a). Less than 6months
b).6 months to one year
c).1 to 2 years
d).More than 2 yrs

APPENDIX - VII

RESEARCH TOOL – ENGLISH

HAMILTON ANXIETY RATING SCALE

Sample No: _____ **Place: _____**

Age: _____ **Date: _____**

TICK YOUR SYMPTOMS IN THE SUITABLE COLOMN ( )

SYMYOMS	NOT PRESENT	MILD	MODERATE	SEVER	VERY SEVER
1.Anxious mood (worries, anticipates worst)	**0**	**1**	**2**	**3**	**4**
2.Tension (Startles, cries easily, restless, trembling)					
3.Fears (fear for strangers, fear of being alone)					
4.Insomnia (difficulty falling asleep or staying asleep, difficulty with nightmares)					
5.Intellectual (poor concentration, Memory impairment)					
6.Depressed mood (decreased interest in activities, Anhedonia, insomnia)					
7.Somatic complaints – muscular (muscle aches or pains, bruxism)					

8.Somatic complaints – sensory (tinnitus, blurred vision)					
9.Cardio vascular symptoms (tachycardia, palpitation, chest pain, sensory of feeling faint)					
10.Respiratory symptoms (chest pressure, choking sensation, Shortness of breath)					
11.Gastro intestinal symptoms (Dysphagia, nausea or vomiting, constipation, weight loss)					
12.Genitorinary symptoms (urinary frequency or urgency, Dysmenorrheal, impotence)					
13.Autonomic symptoms (dry mouth, flushing, pallor, sweating)					
14.Behaviour at interview (fidgets, tremor, pases)					

APPENDIX – VIII

SOCIO-DEMOGRAPHIC DATA – TAMIL

ஆராய்ச்சியாளரின் வடிவமைக்கப்பட்டநேர்காணல் படிவம்

தன்னிலைவிபரக்குறிப்பு

இடம் **வயது** **தேதி**

நேர்காணல் படிவம் எண் - 1

1. **வயது**
   - அ) 13 – 20 வரை
   - ஆ) 21 - 35 வரை ☐
   - இ) 36 - 50 வரை
   - ஈ) 51 - 65 வரை

2. **பாலினம்**
   - அ) ஆண்
   - ஆ) பெண் ☐

3.) **மதம்**
   - அ) இந்து
   - ஆ) கிறிஸ்தவம் ☐
   - இ) இஸ்லாம்
   - ஈ) மற்றவை

4. **கல்வித்தகுதி**
   - அ) ஆரம்பக்கல்வி
   - ஆ) உயர்நிலைக்கல்வி
   - இ) மேல்நிலைக்கல்வி ☐
   - ஈ) பட்டப்படிப்பு
   - உ) படிப்பறிவின்மை

5. **தொழில்**
   - அ) நிறுவனம்
   - ஆ) தினக்கூலி
   - இ) சொந்தத்தொழில் ☐
   - ஈ) இல்லத்தரசி
   - உ) வேலையின்மை

6. வாழ்விடம்

அ) கிராமம்

ஆ) நகரம் ☐

7. மாதவருமானம்

அ) ரூ 5000 க்குகீழ்

ஆ) 5000 - 10000 ☐

இ) 10000 - 15000

ஈ 15000 க்குமேல்

8. குடும்பத்தின் தன்மை

அ) தனிக்குடும்பம்

ஆ) கூட்டுக்குடும்பம் ☐

இ) விரிவாக்கப்பட்ட குடும்பம்

9. எவ்வளவு நாட்களாக இருதய நோய் உள்ளது

அ) 6 மாதத்திற்கும் குறைவு

ஆ) 6 மாதம் முதல் 1 வருடம் வரை ☐

இ) 1 வருடம் முதல் 2 வருடம் வரை

ஈ) 2 வருடங்களுக்கும் மேல்

10. எவ்வளவு நாட்களாக இருதய நோய்க்கான மருந்து எடுத்துக் கொள்கிறீர்கள்

அ) 6 மாதத்திற்கும் குறைவு

ஆ) 6 மாதம் முதல் 1 வருடம் வரை ☐

இ) 1 வருடம் முதல் 2 வருடம் வரை

ஈ) 2 வருடங்களுக்கும் மேல்

APPENDIX - IX

RESEARCH TOOL – TAMIL

APPENDIX X

ஞேமிலடன் பதற்றநிலை அளவுகோல்

மாதிரி எண் இடம்

வயது தேதி

கீழ்க்கண்ட அறிகுறிகளில் உங்களுக்கு பொருத்தமானவற்றை குறியிடுக ( )

அறிகுறிகள்	இல்லை 0	லேசாக 1	மிதமாக 2	அதிகமாக 3	மிக அதிகமாக 4
1. பயமான மனநிலை (கவலை, மனஉளைச்சல் அதிகமாதல்)					
2. பதற்றம் (எளிதில் அழுதல், படபடப்பு					
3. பயம் (இருட்டை கண்டால், புதியவர்களை கண்டால், தனியாக இருந்தால், மிருகங்கள்					
4. தூக்கமின்மை (ஆழ்ந்த தூக்கத்தில் சிரமம், பேய்கணவுகளால் சிரமம்)					
5. அறிவுத்திறன் (கவனக்குறைவு, ஞாபகமறதி)					
6. மனஅழுத்தம் (எதிலும் ஆாவமின்மை, மகிழ்ச்சியை அனுபவிக்காமை தூக்கமின்மை					
7. உடல்தசை பிரச்சனைகள் (தசை வலி, பற்களை கடித்தல்)					
8. உடல்உணவு பிரச்சனைகள் (உடல் அதிக சூடாதல் அல்லது குளிர்தல், மங்கிய பார்வை					
9. இருதய அறிகுறிகள் (நாடித்துடிப்பு குறைதல், முடபடப்பு, நெஞ்சுவலி மயக்க உணர்வு					

10. சுவாச அறிகுறிகள் (நெஞ்சு அழுத்தம், நெஞ்சு அடைப்பு, மூச்சுவிடுதலில் சிரமம்)					
11. வயிறு குடல் சம்பந்த அறிகுறிகள் விழுங்குவதில் சிரமம், வாந்தி வாந்திவரும் உணர்வு, மலச்சிக்கல், எடை குறைவு					
12. இனப்பெருக்க சிறுநீர் சம்பந்த அறிகுறிகள் (அடிக்கடி சிறுநீர் கழித்தல், மாதவிடாய் வலி, இனப்பெருக்க இயலாமை)					
13. தானியங்கு அறிகுறிகள் (வாய் உலர்தல், வெளிறிய தன்மை, வியர்த்தல்					
14. நேர்காணலின் போது நடத்தை வெளிறிய முகம், கைநடுக்கம், மூச்சு வாங்குதல்					

APPENDIX - X

ENGLISH EDITING CERTIFICATE

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation "**a study to evaluate the effectiveness of mindfulness therapy on anxiety among preoperative patients in cardiothoracic surgery ward at Government Rajaji hospital Madurai"** done by Mrs.M.Velayee,M.Sc,Nursing II year student, college of Nursing, Madurai Medical college,Madurai-20 has been edited for English language appropriateness.

Name: Dr. G. Teja Tervakani

Designation: Assistant Professor of English

Institution: Mannar Thirumalai Naicker College.

signature

HEAD OF THE DEPARTMENT
DEPARTMENT OF ENGLISH, (S.F)
Mannar Thirumalai Naicker College,
Pasumalai, Madurai 625 004.

APPENDIX - XI

TAMIL EDITING CERTIFICATE

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation "**A study to evaluate the effectiveness of mindfulness therapy on anxiety among preoperative patients in cardiothoracic surgery ward at Government Rajaji hospital Madurai"** done by Mrs.M.Velayee,II year M.Sc,Nursing student, college of Nursing, Madurai Medical college.Madurai-20 has been edited for Tamil Language appropriateness.

Name: தி.பரிமளா

Designation: உதவிப்பேராசிரியர்

Institution: மன்னர் திருமலை நாயக்கர் கல்லூரி

தி.பரிமளா
signature

முனைவர். தி.பரிமளா M.A., M.Phil., Ph.D.,
உதவிப் பேராசிரியர்
தமிழ்த்துறை (சுயநிதி)
மன்னர் திருமலை நாயக்கர் கல்லூரி (தன்னாட்சி)
பசுமலை, மதுரை-625 004

APPENDIX - XII

INTERVENTION – MINDFULNESS THERAPY- ENGLISH

Step I: Warm up exercises 10 minutes

The researcher used the following warm up exercises in order to bring the focused attention among the study subjects. After giving the brief introduction about the mindfulness procedure, subjects were asked to sit comfortable on the bed sheet and do the following warm up exercises.

• Both hands up while breath in and hands down while breath out for 5 times.

• Clockwise and anti clockwise rotation of neck for 5 times

• Internal and external rotation of shoulder for 5 times

Step II: Practicing Mindfulness

After warm up exercises subjects were asked to lie down on the spread with supine position and relax for a while until their breath comes to normal .Then following steps will be followed.

A comfortable position:

Sit up with spine straight on the spread with cross-legged or sugasana whichever the subjects are able to do.

A point of focus:

This point can be internal –a feeling, repeat it throughout their session concentrate on breath.

An observant non critical attitude:

During this time don't worry about the distracting thoughts that go through their mind or about how well they are doing. If thoughts intrude during the relaxation

session, don't fight with them, and just observe it with non judgmental attitude. Instead, gently turn their attention back to the point of focus. This should last for 20 minutes.

Mindfulness Therapy:

Sit quietly and focus on your natural breathing or on a word or "mantra" that you repeat silently. Allow thoughts to come and go without judgment and return to your focus on breath or mantra.

Body sensations:

Notice subtle body sensations such as an itch or tingling without judgment and let them pass. Notice each part of your body in succession from head to toe.

Sensory:

Notice sights, sounds, smells, tastes, and touches. Name them "sight," "sound," "smell," "taste," or "touch" without judgment and let them go.

Emotions:

Allow emotions to be present without judgment. Practice a steady and relaxed naming of emotion joy anxiety" "frustration."Accept the presence of the emotions without judgment and let them go.

APPENDIX - XIII

TRAINING CERTIFICATE FOR MINDFULNESS THERAPY

THE VALLIAMMAL INSTITUTION (TVI)

2/18A Upstairs, B.B. Road 2nd St., Pankajam Colony , Madurai-625 009.

✆ 98942 49630; 98430 40226 email: ananthibetsy@rediffmail.com

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Director
Rajarajan Institute of Science (RISE)

THE VALLIAMMAL INSTITUTION (TVI) 2/18A Upstairs, B.B. Road 2nd St., Pankajam Colony, Madurai-625 009 Ph: 4210258

Dr. B. Ananthavalli M.Sc.,M.A.,M.Phil.,Ph.D.,
Director & Secretary
The Valliammal Institution (TVI)

APPENDIX - XIV

PHOTOGRAPHS